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The

ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
OTTAWA

Published by Authority of the Hon. James G. Gardiner
Minister of Agriculture

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THE ECONOMIC SITUATION AND OUTLOOK FOR 1937

International Trade Conditions.—International figures for the first nine months of 1936 show increases over the previous year and point to definite improvement in world trade, though recovery has not been as satisfactory in some countries as in others and many forces remain which hinder a more general world improvement. The United Kingdom and the United States are both showing rapid recovery; an encouraging outlook for Canada whose principal export market is in these two countries.

Trade in agricultural foodstuffs has not increased to the same extent as some other products. This is in part due to the change in production in many countries normally considered as importers of agricultural produce. These countries, chiefly in Western Europe, for economic, political, military and social reasons, have encouraged the production of more home grown food stuffs. High tariffs, quotas, subsidies and other restrictions have been the weapons used to aid the domestic producer; but the evidence of some relaxation of these trade barriers during recent months gives grounds for optimism. The willingness among certain countries to discuss and negotiate trade agreements, together with the devaluation of the French franc, in co-operation with the governments of Great Britain and the United States, has in the first case helped to open trade channels, and in the second to stabilize foreign exchange. A less insular attitude on the part of many nations is still, however, a pre-requisite to increased international trade.

The Domestic Situation.—Substantial business recovery continued in Canada throughout 1936 with consequent improvement in employment and greater income in the hands of the public. The average level of industrial production was at least 9 per cent above that of 1935; and the index of manufacturing production showed a gain of nearly 10 per cent. Newsprint production advanced considerably and imports of raw cotton, which were up 31 per cent indicate increased activity in the textile industry. Lumber exports benefiting from the continued building activity in the United Kingdom, increased 27 per cent. Mineral production showed acceleration in all branches, 1936 indices averaging 12 per cent above those for 1935. The output of electric power recorded a 9 per cent gain and reached the highest point in the history of the industry. Retail sales advanced by 4 per cent and the increase in tourist traffic was substantial. Of particular interest to farmers was the narrowing of the spread between farm prices and the general price level and the continued rise since mid-summer in prices of farm products.

On the debit side, unemployment, though materially improved, particularly during the latter half of the year, remains a major problem; and the construction industry is slow in showing signs of recovery.

It seems likely that moderate price increases for living necessities and certain operating requirements may be expected in 1937; but these may however

Annual and Monthly Index Numbers of Prices and Production Computed by Dominion Bureau of Statistics

Year	Wholesale Prices 1926 = 100				Retail prices and cost of services (5)	Production (6) 1926 = 100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·2	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·4	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·7	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	68·9	94·2	93·6	88·5	114·2
1935....	72·1	63·4	57·1	73·9	79·3	102·4	103·3	87·4	128·4
1936....	74·6	70·1	67·0	75·3	80·7	111·0	112·8	93·3	148·1
1936									
Jan.....	72·9	65·9	59·0	77·5	80·5	105·2	107·0	39·8	143·4
Feb....	72·5	66·0	58·9	77·8	80·3	104·9	104·9	62·7	150·3
Mar....	72·4	65·5	59·2	76·0	80·4	103·3	104·1	89·5	149·5
April...	72·2	65·0	59·8	73·8	79·7	108·8	109·2	115·8	149·3
May...	71·8	64·8	59·9	73·0	80·0	109·7	110·6	110·0	144·5
June....	72·3	64·5	60·8	70·7	80·1	110·3	111·6	73·9	171·9
July....	74·4	66·3	63·2	71·6	80·4	110·0	111·1	103·9	137·5
Aug....	76·2	73·3	74·1	71·9	81·0	113·2	115·2	216·9	129·7
Sept....	76·4	74·4	74·2	74·7	81·5	115·3	117·6	162·6	130·0
Oct....	77·1	76·3	76·4	76·2	81·5	119·8	123·8	71·6	146·3
Nov...	77·2	77·1	75·6	79·5	81·7	120·0	124·9	43·7	162·4
Dec....	79·7	82·4	83·4	80·8	81·8	112·0	114·0	29·6	162·4

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1935, p. 17.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1935, p. 53, and Monthly Mimeographs 1936 and 1937.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100.
Prices and Price Indexes 1913-1935, p. 117, and Monthly Mimeographs, 1936-1937.
6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

Yearly index numbers for 1936, subject to revision.

be more than offset by wage adjustments, and by more rapidly rising prices of farm products.

Wheat.—Low yields of wheat caused by drought and poor growing weather in the major producing countries decreased the available world supply. Prices rose during the year with the decline in supplies and have remained for several months at the highest level since early in 1930. It is likely that both world and Canadian stocks will be back to normal, or even lower levels at the end of the 1936-37 season. Fundamentally however, the world wheat acreage remains at such a level that normal growing weather would result in a return to conditions such as existed from 1929 to 1934 when surplus stocks rose with declining trade.

Oats.—A decrease in acreage sown, together with drought conditions reduced the total yield of oats in Canada during 1936 by nearly 30 per cent below the 1935 figures. Exports for the first four months of the present crop year showed a decline of 44·5 per cent, and although the carry-over on August 1, 1936, was 14 million bushels more than the previous year, a shortage may arise before the 1937 crop is available.

Barley.—Although barley acreage showed an increase of half a million acres, the total yield for 1936 was 11·2 million bushels below that of the previous year. A poor crop in the United States made shipments to that country attractive, and the active demand, particularly for the malting type, may encourage an increased acreage in 1937.

Rye.—Available supplies of rye for the 1936-37 season are about equal to those of the previous year and a large increase in United States imports has already materially reduced this supply. An increase of 17·2 per cent in acreage of fall rye in the United States has been reported for the 1936-37 crop year, which may affect exports to that country during 1937-38. Fall rye sowings in Canada were 4 per cent less in 1936 than in 1935.

Live Stock—Beef Cattle.—The beef cattle market held up remarkably well during the closing months of 1936, under heavy supplies. Marketings since the middle of the year have been considerably in excess of those of the similar period of 1935. The favourable conditions which aided the market in 1936 may be expected in 1937; a moderate volume of cattle on feed in Canada, and on grain for the winter and spring market in the United States and the continuation of the reduced tariff on cattle entering the United States. Increasing consumer purchasing power in the United States may be a further important feature, but conditions and prices in the United Kingdom do not promise any significant change. Higher costs of coarse grains and other cattle feeds with a scarcity of these in many areas is an unfavourable condition, which may be partially off-set by somewhat improved prices for finished cattle in 1937.

Hogs.—The increase in hog production which began in the latter part of 1935, was checked in the autumn of 1936. Rising feed prices made hog raising relatively unprofitable and there was some liquidation of stocks, particularly among breeders largely dependant upon purchased feed. The volume of exports to the United Kingdom expanded during the year. Increased marketings may be expected during the spring months with decreased supplies thereafter.

Poultry and Eggs.—Prices for eggs were firm throughout 1936 and averaged higher than during the previous year. The increased demand for baby chicks in the spring of 1936 should result in greater egg production through the winter of 1936-37. Prices of poultry were lower during the year than in 1935, but the market absorbed supplies satisfactorily. Exports of live poultry to the United States were heavy but dressed poultry exports to the United Kingdom declined during 1936.

Butter and Cheese.—The dairy industry during 1936 showed definite improvement. Butter prices averaged higher than during any of the previous four years, and cheese prices were better than any year since 1930. Despite severe drought in sections of Ontario and the Prairie Provinces, production of both products showed substantial gains over 1935. Exports of cheese to both the United Kingdom and the United States were higher in 1936. Storage stocks of butter together with a normal winter make will be sufficient, if not more than sufficient, to supply domestic requirements until the spring increase in production. Prospects of normal production in 1937, together with improved general economic conditions, should consolidate the gains of last year.

Fruit.—Unfavourable weather conditions reduced production of almost all kinds of fruit during 1936, but there was little permanent damage to fruit trees except among apple orchards in British Columbia. Lower production of apples, and a good crop in that country, reduced exports to the United Kingdom but comparatively good prices were received. Prices of fruits generally were slightly more favourable than a year ago.

Potatoes.—Production was slightly in advance of 1935 figures and the crop should fetch somewhat higher prices during 1936-37. Export demand for seed and table stock has been brisk. Indications are however, that anything more than a modest increase over an average yield in 1937 would probably result in marketing difficulties.

Honey.—Honey production was below average and exports during the first six months of 1936 were lower than for the similar period of 1935. Domestic prices remained fairly stable throughout 1936.

Tobacco.—Unfavourable weather conditions in 1936 materially reduced the production of flue-cured and burley tobaccos and stocks of both grades are relatively low. Cigar leaf tobacco stocks are above average. The upward trend in consumption of cut and cigarette tobaccos continues while that of cigars and plug tobaccos is declining. Provided quality and price are satisfactory, an enhanced export demand for the 1937 crop of flue-cured and burley tobaccos should be experienced.

THE TORONTO WHOLESALE FRUIT AND VEGETABLE TRADE*

W. F. Chown

At the request of a committee, which has been called the Toronto Terminal Market Committee and which was created to study the possibilities and the desirability of a new wholesale market in the city of Toronto, the Economics Branch of the Dominion Department of Agriculture with the assistance of the Ontario Department of Agriculture made a study of the marketing and distribution of fresh fruits and vegetables in that city. As a part of this study, the business of 39 wholesale fruit and vegetable dealers has been analysed for the year 1935. In addition to 25 members of the Toronto Wholesale Fruit and Vegetable Association, others are included either, because of their importance in the trade, or, because they had places of business on the market along with the other dealers.

Size and Type of Business.—There is a considerable variation in the size of business of the 39 firms; the sales of the six largest firms amounted to over half the total sales of all firms in 1935. There is no sharp distinction between carlot receiver, commission man and jobber. Thirty-three firms received carloads by rail, but several of these received only one commodity such as oranges or watermelons. Thirty firms handled produce on commission, but six of these did over half, and ten over three-quarters of the total commission business. Four of the firms doing the largest commission business were in the group of six with the largest total sales. It is a common practice for two or more firms to buy carloads jointly. A number of firms confined their buying to imported goods, potatoes, onions and apples, and handled all the more perishable local produce on commission. On the other hand some bought a wide variety of local produce from growers and truckers and at least ten bought substantial quantities in the country and brought this to market in their own trucks.

The commission merchant makes two deductions from the proceeds of goods sold to recompense him for the services rendered. Commission is charged as a percentage of the selling price and was at the rate of 12½ per cent on most local produce and 7 per cent on imported goods. The second deduction, usually referred to as a handling charge, is only made on local produce. This is on a per package basis, e.g. ½ cent per six quart basket, 1 cent per 11 quart basket,

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* Based on preliminary analysis of data collected during the summer of 1936.

3 cents per crate. The average deduction made by five firms handling local produce almost exclusively was a commission of 12·4 per cent and a handling charge of 2·7 per cent leaving a return to the grower of 84·9 per cent of the selling price. Transportation charges are also deducted when paid by the wholesaler and vary with the weight and distance shipped. In the case of these five firms the amount deducted amounted to 6 per cent of the selling price.

Turnover of Fresh Fruits and Vegetables.—The turnover of fresh fruits and vegetables by 39 Toronto wholesalers during the year 1935 is presented in Table 1.

TABLE 1—TURNOVER OF FRESH FRUITS AND VEGETABLES BY THIRTY-NINE TORONTO WHOLESALERS DURING THE YEAR 1935

—	Tons	Dollars
Commodities purchased:—		
Carlot receipts, at cost delivered in Toronto	79,448	6,790,385
*L.c.l. freight, express and boat receipts, at cost delivered in Toronto	1,049	71,986
Truck receipts, at cost where purchased	11,220	607,416
Total purchases	91,717	7,469,787
Commodities sold on consignment:—		
At selling price less commission and handling charges	33,763	1,638,417
Total commodities handled		9,108,787
Gross margin on purchases and commission earned (estimated)		884,489
Balance representing cost of nuts, holly, dried fruits included in sales but not in purchases and errors and omissions		212,125
Tonnage and selling value after eliminating sales between dealers	125,480	10,204,719

*L.c.l. = Less than carload lots.

Of the commodities purchased, the carlot receipts amounting to 79,448 tons and costing $6,790,385 on track in Toronto is the main item. Only a very small quantity of fruits and vegetables arrives in Toronto by rail in less than carlots. The l.c.l. freight, express and boat receipts amounting to 1,049 tons are inflated by purchases from cars received and actually sold at wholesale by brokers. These were mainly carload arrivals in Toronto but less than carload purchases by the wholesalers whose businesses were analyzed. The truck receipts, 11,220 tons, include commodities purchased either in Toronto from trucker-dealers and growers or in the country from growers and dealers or on the Buffalo and Detroit markets. These cost of $607,416 where purchased. Customs and excise have been added in the case of foreign goods but no attempt has been made to estimate the cost of transportation to market.

The quantity of fruits and vegetables sold on consignment was estimated to be 33,763 tons or 27 per cent of the total tonnage but valued at selling price, less commission and handling charges at $1,638,417 or 18 per cent of the total value. Commodities sold on consignment included 1,900 tons received in carlots, about 1,000 by l.c.l. express, 1,426 tons by boat from Niagara district and over 29,000 tons by motor-truck. Of the quantity brought to market by motor-truck less than half was brought by truckers and the larger part by growers' trucks.

The gross margin on purchases estimated at 8 per cent on carlot receipts, and 10 per cent on other receipts plus the commission and handling charges earned by the merchants amounted to $884,489. The total cost of fresh fruits and vegetables handled amounted to $9,108,204 and the total sales to $10,204,719. This leaves an excess over the estimated margin of $212,125 which is partly accounted for by the fact that sales included some commodities other than fresh fruits and vegetables e.g. cocoanuts, peanuts, holly, dried fruits and flowers.

Origin of Fresh Fruits and Vegetables.—Table 2 shows the origin of fresh fruits and vegetables handled by 39 Toronto wholesalers during 1935.

TABLE 2—VALUE OF FRESH FRUITS AND VEGETABLES OBTAINED FROM VARIOUS SOURCES WHICH WERE HANDLED BY THIRTY-NINE TORONTO WHOLESALERS DURING 1935

Origin	Purchases			Commission business	Total	Per cent
	Carlot receipts	L.c.l. and boat receipts	Truck receipts			
	$	$	$	$	$	%
Toronto West	288		27,731	416,233	444,252	4·8
Burlington-Oakville		3,447	22,799	173,028	199,274	2·2
Niagara		286	40,362	305,047	345,695	3·8
Norfolk	4,757		41,629	38,771	85,157	1·0
Leamington	5,668	2,556	106,633	187,548	302,405	3·3
Thedford-Sarnia	466		14,279	8,038	22,783	·3
Toronto East			10,011	30,754	40,765	·4
East of Toronto	2,727		62,398	24,803	89,928	1·0
Bradford			27,946	59,119	67,065	·9
Georgian Bay	187		33,219	4,239	37,645	·4
Other districts of Ontario			21,625	40,236	61,861	·7
Total for Southern Ontario	14,093	6,289	408,632	1,287,816	1,716,830	18·8
Northern Ontario and Quebec		1,544		70,440	71,984	·8
Other Canadian Provinces	461,623	6,663	5,990	11,171	485,447	5·3
Foreign Countries	6,314,669	57,490	192,794	268,990	6,833,943	75·1
Total	6,790,385	71,986	607,416	1,638,417	9,108,204	100·0
Percentage	74·5	0·8	6·7	18·0	100·0	

The purchases are in three columns according to the method of arrival and the commission business in one column only. The carlot purchases include carrots from Toronto West, 12 cars of onions from Leamington, and 35 cars of potatoes from various Ontario districts. There were 802 cars from other Canadian provinces including 700 cars of potatoes from Prince Edward Island and New Brunswick valued at $291,320 and 93 cars of fruit from British Columbia valued at $159,032. There was a total of 5,273 cars from foreign countries valued at $6,314,669 of which 1,104 cars of oranges valued at $2,243,176 was the outstanding item. The l.c.l. freight and express receipts include tomatoes from Burlington, peaches from Niagara, onions from Leamington, blueberries from Northern Ontario and Quebec, potatoes from Prince Edward Island, apples from British Columbia and a variety of produce from a number of foreign countries. Truck purchases include a variety of produce from all districts of Ontario, particularly onions, potatoes and apples. Produce from all districts in Ontario is sold on commission but potatoes, onions and apples are relatively unimportant. Ontario contributes 18·8 per cent of the total value of commodities handled by the wholesalers and of this over half originated in the Toronto West, Burlington and Niagara districts.

The total tonnage of all fruits and vegetables handled by Toronto wholesalers in 1935 was 125,495, of this total approximately 33 per cent came from Southern Ontario.

One thousand dollars bought 24 tons of Ontario produce, 33 tons of produce from other Canadian provinces and 10 tons of foreign produce. Foreign produce has a low tonnage per $1,000 because of heavy transportation charges and customs duties. Produce from other Canadian provinces has a high tonnage because it consists largely of potatoes from the Maritime provinces.

Table 3—Origin of Fresh Fruits and Vegetables Handled by Thirty-nine Toronto Wholesalers during 1935

Origin	Purchases			Commission business	Total	Per cent
	Carlot receipts	L.c.l. and boat receipts	Truck receipts			
	Tons	Tons	Tons	Tons	Tons	%
Southern Ontario	866	50	9,890	30,487	41,293	32·9
Northern Ontario and Quebec	....	14	....	589	603	0·5
Other Canadian Provinces	16,986	356	157	196	17,695	14·1
Foreign Countries	61,610	629	1,173	2,492	65,904	52·5
Total	79,462	1,049	11,220	33,764	125,495	100·0
Percentage	63·3	0·8	9·0	26·9	100·0	

Seasonal Analysis of the Commission Business.—Seventy-two per cent of the commission business is transacted during the four month period June to September. October was the next largest month.

Table 4—Monthly and Seasonal Analysis of 1935 Commission Business, Thirty-nine Toronto Wholesalers

Monthly	Net return	
	$	%
June	203,122	13·6
July	380,853	25·5
August	262,864	17·6
September	232,993	15·6
October	106,041	7·1
November	70,179	4·7
December	41,819	2·8
January	38,832	2·6
February	22,403	1·5
March	32,858	2·2
April	34,351	2·3
May	67,209	4·5
Total	1,493,543	100·0
June-September	1,079,832	72·3
October-May	413,711	27·7

On a tonnage basis June and July would likely be of less importance because of the higher prices realized in these months for early produce. Consignments of foreign produce make up the bulk of the business during the seven months November to April.

Analysis of Wholesalers' Sales.—Twenty-three per cent of the wholesale sales were to points outside Toronto.

Table 5—Sales Analysis of Thirty-nine Toronto Wholesalers, 1935

Sold to:	Value	Per cent
	$	%
Country points	2,336,404	22·9
City jobbers and peddlers	1,218,498	12·0
Hotels, restaurants, institutions, processing plants and other non-retail agencies	286,201	2·8
Chain stores	1,400,764	13·7
Independent retail stores	4,962,852	48·6
Total	10,204,719	100·0

Shipments to Hamilton exceeded those to any other place but with this exception sales were chiefly to northern and eastern Ontario. Sales to city jobbers and peddlers amounted to $1,218,498 or 12 per cent of the total. These goods were either retailed on the streets of Toronto or resold to retail storekeepers. Some were apparently sold on the Dundas Street trucking market and possibly a small portion was resold to wholesalers within the group. Sales to the four chain stores amounted to $1,400,764 or 13·7 per cent of the total. The wholesalers were the principal source of supply for the chain stores although the chain stores did bring in some carloads themselves and also bought directly from growers. Independent retail stores were the principal customers of the wholesalers. Sales to them amounted to $4,962,852 or 48·6 per cent of the total.

Delivery and Cartage.—Wholesalers estimated that 22 per cent of the carload receipts or 18,000 tons were delivered direct from the cars and did not pass through the warehouse. It was estimated that the total cost of cartage from team tracks to warehouse or storage was $44,832 and that the cost of city delivery was $61,066.

Account sales for consigned goods were so numerous that "sampling" was resorted to. At this date these samples have not been fully analyzed nor have the details of truck purchases and so these figures may be modified later. There is a considerable variation in accounting methods, particularly concerning consignments and joint car purchases. It was therefore necessary to learn in each office just how these had been treated before proceeding with the analysis. In these and all other matters the staff enjoyed the full co-operation of the wholesalers and their employees.

REAL ESTATE INDEBTEDNESS IN SOUTHWEST CENTRAL SASKATCHEWAN

G. C. Elliott

This article presents some facts concerning real estate indebtedness of 529 farm owners in southwest central Saskatchewan in 1935.[1] The reduction in this indebtedness made possible by the Saskatchewan Voluntary Debt Adjustment Plan has been calculated and is also presented. Real estate indebtedness was the most important item of expense for the 529 farm owners. In 1935 approximately 57 per cent of a total indebtedness amounting to $9,697 per farm was associated with real estate in farm mortgages and agreements for sale of land.

REAL ESTATE INDEBTEDNESS IN RELATION TO SOIL AND TOPOGRAPHY

Where the topography was level to moderately rolling, the real estate indebtedness per farm and per acre of cropland was greater on the heavier than on the lighter soils; and it was also greater per farm and per acre of cropland on the level topography as compared with more rolling topographies. The indebtedness varied from $2,953 on strongly rolling silt loam and loam soils to $9,256 per farm on level clay and clay loam soils. The range of indebtedness per acre of cropland was from $10.07 for the light loam and fine sandy loam soils with gently rolling topography to $18.95 on the clays and clay loams with level topography. In the strongly rolling class and on the silt loam and loam soils the indebtedness was $12.62 per acre of cropland, which was somewhat higher than for the other soil types in this topography group. The silt loam and loam soils consist largely of Haverhill loam which in the strongly rolling phase was characterized by stones. A smaller percentage of the farm area was cultivated on the Haverhill loam than on the other soil types with strongly rolling topography, and although the average indebtedness per farm was smaller on the silt loam and loam soils, there was a larger indebtedness per acre of cropland. The proportion of the total farm indebtedness which was related to real estate was greater on the level to undulating topography than on the gently to steeply rolling topographies.

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[1] An Economic Survey by the Department of Farm Management, University of Saskatchewan, in co-operation with the Economics Branch of the Dominion Department of Agriculture in the Rural Municipalities of Waverley No. 44, Wood River No. 74, Gravelbourg No. 104, Glen Bain No. 105, Shamrock No. 134, Chaplin No. 164 and tps. 7 and 8, rge. 7 of Pinto Creek No. 75.

The total farm indebtedness and the real estate indebtedness per farm and per acre of cropland is presented in Table 1.

Table 1—Total and Real Estate Indebtedness per Farm and per Acre of Cropland, Grouped According to Topography and Soil. Economic Survey, Southwest Central Saskatchewan in 1935

Topography	Level to undulating.			Gently to moderately rolling.			Strongly rolling to steep.		
Soil type	Clays and clay loams	Silt loams and loams	Light loams and fine sandy loam	Clays and clay loams	Silt loams and loams	Light loams and fine sandy loam	Clay loams	Silt loams and loams	Light loams and fine sandy loam
Number of farms	91	44	41	82	91	86	28	29	27
Acres per farm	544	460	498	457	534	498	497	498	516
Total indebtedness per farm $	14,603	10,225	9,578	10,156	9,793	7,176	6,378	4,952	7,189
Real estate indebtedness per farm $	9,256	6,395	4,976	5,702	5,441	3,725	3,242	2,952	3,544
Real estate indebtedness per acre cropland $	18 95	15 93	13 07	14 07	12 75	10 07	10 61	12 62	10 75
Percentage which real estate is of total indebtedness	63	63	52	56	56	52	51	60	49

FARM MORTGAGES

Real estate indebtedness was reported by 85% of the 529 farm owners, only 78 being free from this class of debt. Sixty-four per cent of the parcels of land with real estate indebtedness were mortgaged.

The consolidations of bank and other debts were the reasons most frequently reported by farm owners for mortgaging land, constituting 28% of all cases on the clay and clay loam soils; 30% on the silt loams and loams; and 35% on the light loam and fine sandy loam soils. The consolidation of bank debt more frequently gave rise to farm mortgages on the light loam and fine sandy loam soils than on the heavier soil types. In many instances farm operators made the initial cash payment on purchased land by mortgaging the newly acquired parcel or by mortgaging part of their original holdings, or both. Mortgages given as security to purchase land were responsible for 22% of the mortgages on the clays and clay loams; 16% on the silt loam and loams; and 13% on the light loam and fine sandy loam soils. The relatively higher percentage of mortgages given to purchase land on the heavier soils is partially explained by a greater proportion of the land purchase contracts being in the form of mortgages than as agreements of sale. Capital improvements include expenditures for buildings, machinery, equipment and horse power. Such outlays were stated to have been the reasons for contracting eight per cent of the mortgages on the clay and clay loam soils; 11% on the silt loams and loams; and 16% on the light loam and fine sandy loam soils. On the lighter soils, particular difficulty was experienced in adding capital improvements to the farm business from current farm revenues. The settlement of agreement of sale contracts through credit secured by farm mortgages was most frequent on the heavy and the medium soil types, accounting for 10% of the mortgages on the clay and clay loams;

16% on the silt loams and loams; and only 4% on the light loam and fine sandy loam soils. Among other important reasons given by farm owners in the economic survey for contracting farm mortgages were operating expenses and renewal of former loans, each being of approximately equal significance on the various soil types, and each accounting for about 10% of all the mortgages contracted. The various reasons stated by farm owners for mortgaging their land are classified and grouped according to soil types in Table 2.

Table 2—Reasons Stated by Farm Owners for Mortgaging 474 Parcels of Farm Land, Grouped According to Soil Type. Economic Survey, Southwest Central Saskatchewan in 1935

Reasons for contracting mortgages	Clays and clay loams		Loams and silt loams		Light loams and fine sandy loam		All soils	
	No.	%	No.	%	No.	%	No.	%
Purchase of land	44	22	24	16	16	13	84	18
Consolidation of bank debt	27	14	19	13	27	22	73	15
Consolidation of other debt	29	14	25	17	16	13	70	15
Capital improvement	16	8	17	11	20	16	53	11
Operating expense	20	10	15	10	16	13	51	11
Settlement of agreement for sale of land	20	10	22	15	5	4	47	10
Renewal of former loan	19	10	14	9	13	10	46	10
Miscellaneous reasons	25	12	14	9	11	9	50	10
Total number of cases	200	100	150	100	124	100	[1]474	100

[1] Five mortgages omitted on account of incomplete information.

Twenty-four per cent of the 474 farm mortgages reported in complete detail by 529 farm owners were contracted before 1924; 31% in the period from 1924 to 1928; and 45% from 1929 to 1934. The type of soil had no bearing on the proportion of the mortgages contracted during the various periods. Previous to 1924 the greatest number of farm mortgages contracted were for the provision of funds for capital improvements on the farm, 33 mortgages or 29% being for this purpose. During the same period purchasing land was responsible for 18% of the mortgages, and 15% were for the consolidating of earlier indebtedness.

In the period from 1924 to 1928, which witnessed the greatest activity in the purchasing of land in southern Saskatchewan, 31% of the mortgages given were for land acquisition. Settlement of agreement of sale contracts accounted for 15% of the mortgages contracted, and the renewal of former loans for 13%. Consolidating debts continued to be an important consideration from 1924 to 1928, as the funds obtained from 10% of the mortgages were used for this purpose. Another 10% furnished security for advances made to mortgagees for operating expenses.

The decline of farm prices in 1929 brought with it a shift in the use which was made of the proceeds of farm mortgages. Most of the mortgages outstanding in 1935, which had been contracted prior to 1929, were stated to be for the purpose of increasing the general efficiency of the farms. Since that date, the greater proportion of all mortgages were contracted to provide banks with security for advances to farmers, to consolidate other debts, and to provide operating expenses. Previous to 1929, it was customary for many farm operators to borrow from their local bankers during the crop season, repaying the loan after the returns from the crop were received. Many of the farm owners interviewed had borrowed from the bank in 1929, but were unable to repay their loans from the returns of the crop that year. In consequence, many farm owners wrote mortgages on their farms to provide security to the bank, or to obtain funds to pay the bank loan. From 1929 to 1934, 28% of the mortgages were contracted for such purposes, which together constituted the most important reason for mortgaging land during this period. The consolidation of other debts gave rise to 18% of the farm mortgages dated from 1929 to 1934, and the provision of farm operating expenses to another 15%.

The reasons stated by farm owners for mortgaging their lands for the three periods indicated, have been summarized and grouped according to periods in Table 3.

Table 3—Reasons Stated by Farm Owners for Mortgaging 474 Parcels of Farm Land, Grouped According to the Period of the Mortgage. Economic Survey, Southwest Central Saskatchewan in 1935

Reasons for contracting mortgages	Previous to 1924		1924 to 1928		1929 to 1934	
	No.	%	No.	%	No.	%
Purchasing land	21	18	46	31	17	8
Consolidating bank debt	4	4	9	6	60	28
Consolidating other debt	17	15	15	10	38	18
Capital improvement	33	29	10	7	10	5
Operating expense	5	4	14	10	32	15
Settlement of agreement for sale of land	8	7	22	15	17	8
Renewing former loan	10	9	19	13	17	8
Miscellaneous reasons	16	14	12	8	22	10
Total number of cases[1]	114	100	147	100	213	100

[1] Five mortgages omitted—information not complete.

INTEREST RATES

The average rate of interest on 479 farm mortgages, weighted according to frequency only, was 7·5% per annum, while the average interest rate on 267 agreements of sale was 6·3%, an actual difference of 1·2% in the average rate of interest between these two important classes of indebtedness in connection with farm real estate. With reference to farm mortgages, actual advances of funds have been made at some time or other by the loaning agencies and the rate of interest must cover both the charge for the use of funds and the risk of loss involved. On the other hand in connection with the agreements of sale no advances of funds have been made by the seller, and the terms of the contract have been designed with rates of interest sufficiently low to induce the sales of the lands. On the various soil types and topography classes, wide differences in probable net farm revenues might be expected, accompanied by unequal ability of farm owners in these groups to repay their indebtedness. The element of risk accompanying these fluctuations of net farm incomes were apparently not considered by the loaning agencies in adjusting their interest rates, as only slight differences were observed between interest rates on the various soil types and topography classes.

Mortgage interest rates were concentrated between 7·1% and 8·0% per annum, 61% of all mortgages being included in this range. One private mortgage bore no interest. The rate of interest on two farm mortgages was more than 9·0% per annum. Average interest rates on agreements of sale varied from no interest to 8·0%, with a concentration of rates from 5·1% to 6·0% inclusive, which included 73% of the total cases. In 13 agreements for sale of land no provision was made for charging interest.

Table 4 presents a distribution of cases according to the rates of interest stated in connection with 479 farm mortgages, and 267 agreements of sale.

Table 4—Distribution of Cases According to the Rates Stated in Connection with Interest on 479 Farm Mortgages and 267 Agreements of Sale. Economic Survey, Southwest Central Saskatchewan in 1935

Interest rates	Mortgages		Agreements for Sale		All land debt	
	No.	%	No.	%	No.	%
Nil	1	....	13	5	14	2
0·1 to 5·0	7	1	18	7	25	3
5·1 to 6·0	40	8	101	38	141	19
6·1 to 7·0	137	29	94	35	231	31
7·1 to 8·0	286	61	41	15	327	44
8·1 to 9·0	6	1	....	....	6	1
9·1 and over	2	....	....	....	2	....
All cases	479	100	267	100	746	100

CREDITORS

Mortgage and loan companies constituted the most important group of holders of farm mortgages in the area of the economic survey. Three hundred and twenty, or 67%, of all the farm mortgages were contracted with mortgage, insurance and other loan companies. Banking institutions ranked next in importance as holders of farm mortgages, 84 mortgages or 18% of the total being in their possession. Seventy-two mortgages, or 15%, were privately held.

Most of the parcels of land purchased under agreements of sale on which a portion of the purchase price was still owing in 1935, were in contract with private parties and the Department of Natural Resources administering Crown lands. Private parties were creditors for 53% of the agreements of sale, and the Department of Natural Resources, 29%, while only 17% were in contract with loan and mortgage companies. The banks disposed of three parcels of land by agreements of sale.

The important creditors holding mortgages, and/or agreements of sale on real estate of the farm owners included in the ecomonic survey are classified in Table 5.

Table 5—Number and Percentages of Mortgages and Agreements of Sale Held by Important Creditors of 451 Farm Owners Reporting Indebtedness Against Farm Real Estate. Economic Survey, Southwest Central Saskatchewan in 1935

Agencies	Mortgages		Agreements for Sale		Total	
	No.	%	No.	%	No.	%
Loan and mortgage company	320	67	44	17	362	49
Private	72	15	138	53	210	28
Bank	84	18	3	1	85	12
The Crown[1]	....	....	77	29	81	11
Total number of cases	[2]476	100	262	100	738	100

[1] Department of Natural Resources.
[2] Three mortgages omitted—information not complete.

ADJUSTMENT OF REAL ESTATE INDEBTEDNESS

A plan for the voluntary adjustment of debts within the area known as the "drought area" of Saskatchewan was announced last September. Briefly the procedure prescribed by the officials administering the Order in Council is as follows:—

> On first mortgages and agreements of sale, unpaid interest accumulated to the first day of January 1935, may be cancelled. The principal sum owing on January 1, 1937, together with interest at the contract rate for the years 1935 and 1936 may be consolidated to give the adjusted principal amount owing on mortgages and agreements of sale.

Full details of the advances made by creditors of the farm operators in connection with mortgages and agreements of sale on behalf of their debtors from the summer of 1935 when the survey was made to January 1, 1937, were not available for the purpose of including in the consolidation with the principal amount. Information relating to payments made by farmers to their creditors on account of indebtedness in the form of crop shares has not been available, and consequently no additions have been made on this account. As crops in the area in 1936 were very poor and payments on indebtedness very limited, the error from this omission is small.

Table 6 summarizes the real estate indebtedness of 529 farm owners at the time of the 1935 economic survey; the reduction in real estate indebtedness from the time of the survey to January 1, 1937; and the average real estate indebtedness on January 1, 1937.

TABLE 6—REAL ESTATE INDEBTEDNESS AT THE TIME OF THE 1935 ECONOMIC SURVEY AND THE CORRESPONDING INDEBTEDNESS ADJUSTED TO CONFORM WITH THE SASKATCHEWAN VOLUNTARY ADJUSTMENT OF DEBTS MUNICIPAL UNIT PLAN, FOR 529 FARM OWNERS INCLUDED IN THE ECONOMIC SURVEY IN SOUTHWEST CENTRAL SASKATCHEWAN IN 1935.

Topography.............	Level to undulating.			Gently to moderately rolling.			Strongly rolling to steep.		
Soil type................	Clays and clay loams	Silt loams and loams	Light loams and fine sandy loam	Clays and clay loams	Silt loams and loams	Light loams and fine sandy loam	Clay loams	Silt loams and loams	Light loams and fine sandy loam
Real estate indebtedness per farm, 1935.........$	9,256	6,395	4,976	5,702	5,441	3,725	3,242	2,953	3,544
Reduction in real estate indebtedness per farm, $	2,523	1,705	1,339	1,230	1,076	886	678	687	699
Real estate indebtedness per farm January 1st, 1937..................$	6,733	4,690	3,637	4,472	4,365	2,839	2,564	2,266	2,845
Real estate indebtedness per acre of cropland, January 1st, 1937......$	13.79	11.68	9.55	11.03	10.23	7.68	8.39	9.68	8.63
Reduction in real estate indebtedness per acre cropland..............$	5.16	4.25	3.52	3.04	2.52	2.39	2.22	2.94	2.12
Percentage reduction in real estate indebtedness.	27	27	27	22	20	24	21	23	20

The average reduction of real estate indebtedness made possible by the voluntary debt adjustment plan is greatest per farm and per acre of cropland on the heavier soils, and on the more level topography. The reduction per farm ranged from $678 on the clays and clay loams with strongly rolling topography to $2,523 on the same soil type with level topography. The reduction in real estate indebtedness per acre of cropland ranged from $2.12 per acre on light loam and fine sandy loam soils with strongly rolling topography, to $5.16 on the clay and clay loam soils with level topography. The percentage reduction in real estate indebtedness from the 1935 level averaged 27 per cent for farm owners on level topography, and approximately 22 per cent for those on the gently rolling and strongly rolling phases. The lack of uniformity in the percentage reduction of real estate indebtedness as between soil and topography groups was only partially explained by differences of interest rates. The accumulation of unpaid interest on real estate contracts of farm owners on the more rolling topographies since 1928 was somewhat less than for the owners situated on the more level land.

SUMMARY

Indebtedness in connection with farm real estate constituted the most important class of indebtedness of 529 farm owners included in the economic survey, southwest central Saskatchewan in 1935. For this class of indebtedness, both the amount per farm and proportion of the total farm indebtedness associated with real estate, were greatest for owners of farms where the topography was less rolling. For all farms on any class of topography and soil the consolidation of bank and other forms of indebtedness, together constituted the most important reasons stated by farm owners for mortgaging land. The average rate of interest on farm mortgages was 7·5 per cent and on agreements of sale 6·3 per cent. More farm mortgages were held by mortgage and loan companies than by any other group of agencies advancing funds to farmers, whereas the greatest percentage of agreements of sale were privately held. The reduction in real estate indebtedness made possible by the Saskatchewan Voluntary Debt Adjustment Plan is somewhat greater where the topography is level than on the more rolling phases.

ECONOMIC LITERATURE

COHEN, RUTH L., The History of Milk Prices. An Analysis of the Factors Affecting the Prices of Milk and Milk Products. Printed for and issued by the Agricultural Economics Research Institute, Oxford, 1936. 185 pages and Appendices and Index.

Milk and dairy products represented about one quarter of the sales of all farm produce in Great Britain in 1930-31, and a further 10 per cent was derived from by-products of the dairy industry. With this branch of agriculture in such a prominent place in the industry as a whole, together with the awakening public interest in nutritional problems and the attention being directed to the Milk Marketing Schemes; Miss Cohen's book is both valuable and timely. Presented in simple form, it is as interesting to the layman, as it is essential to the student and research worker. It is difficult for the reviewer, in the short space at his disposal, to do adequate justice to Miss Cohen's work, for the history covers a period of nearly half a century and every page of the text is pertinent to the analysis. So at best he can but present a brief outline of the contents and recommend the volume as an excellent exposition of the subject.

The study is in four main sections; the pre-War period of individual buying and selling, the period of War-time control, the post-War period during the currency of the National Farmers' Union contract scheme, and, lastly, the adoption of the Milk Marketing Scheme under the Agricultural Marketing Acts.

The pre-War period marked a great expansion of milk production for liquid sale, from about 491 million gallons in 1890 to 788 million gallons in 1908, and a decline in the home production of butter and cheese. The spread in price between milk sold for liquid consumption and that used for butter and cheese making was not then the problem it is to-day, and except for those farmers in close proximity to a liquid milk market, there appears to have been no substantial difference in the returns to the farmer for fluid milk and for that made into the various dairy products. It was perhaps fortunate for the farmer that the demand for liquid milk was increasing, for it was toward the end of this period that the larger imports of butter and cheese began to have a marked effect upon the industry. Better methods of transportation, however, enabled many of the home producers of butter and cheese to enter the fluid milk market instead of having to compete with the imported manufactured products. On the other hand, in the absence of increased imports there would undoubtedly have been a rise in the price to the consumer of all dairy products, instead of only a change in the nature of the product marketed by a section of the home producers.

The War period was one of Government control. Milk prices were controlled from December, 1916, to April, 1920, and home produced butter and cheese from August, 1917, to March, 1921. Imports of dairy products, particularly of butter, were regulated between 1917 and 1920, and butter, margarine and cheese were all rationed during certain periods of the War. In order to insure adequate supplies, fluid milk prices were fixed at a generous level. "Even at this time of crisis it was found expedient to use the price system for the control of production, though the consequences to consumers were undesirable. No effective alternative method could be devised." It was during the War period of control that varying retail prices were established for summer and winter milk.

In the years immediately following the War various abortive attempts were made at organized bargaining, but it was not until 1922 that the first important price agreements were arranged by the Permanent Joint Milk Committee representing farmers' and dealers' organizations. Two prices were negotiated annually; a fluid milk price based roughly on probable consumption and a price for manufacturing milk based on the price of imported cheese. The agreements were optional and applied mainly to the London district and with modifications to other large towns.

These efforts at co-operation were reasonably satisfactory until 1929, which year marked the beginning of the fall in the prices of manufactured dairy products and the widening margin between them and fluid milk prices. Thereafter, until the institution of the Milk Marketing Scheme, the situation became most unstable. Price agreements were not generally observed and there was a marked tendency for farm house butter and cheese makers to divert their milk into the more lucrative liquid market, to the detriment of those dealers who were still paying agreed prices. " The Milk Marketing Scheme stabilized the position by rendering undercutting illegal, and by charging buyers substantially different prices for their milk according to the uses to which it was put. The segregation of the liquid market was completed."

Miss Cohen presents a very complete picture of the industry under the Milk Marketing Scheme and closes her study with a brief summary of conditions in the past and discusses some of the salient features facing the industry at the present time.

NOTES

An Agricultural Outlook Conference was held under the auspices of the Ontario Department of Agriculture at the College of Agriculture, Guelph, on December 28 and 29, 1936. The meeting was under the chairmanship of Mr. J. B. Fairbairn, Deputy Minister of Agriculture, and was addressed on the afternoon of the first day by the Honourable Duncan Marshall, Minister of Agriculture for Ontario. Those in attendance included officers of the department at Toronto, the staff of the college, county agricultural representatives, and members of the Dominion Department of Agriculture stationed in Ontario. The Dominion Agricultural Outlook Service was represented by the chairman of the central committee.

Preliminary reports previously prepared by a number of committees, dealing with the Ontario agricultural situation and outlook, were read and discussed at some length.

A feature of the conference was the presence of Dr. V. B. Hart of Cornell University and Professor Guy Miller of the Ohio State College, who discussed the use of agricultural outlook information in extension work with the farmers. Many agricultural representatives expressed an interest in the use of such information in Ontario, and it is understood that the Department of Agriculture at Toronto is endeavouring to make available charts and supplementary data that might be used for this purpose.

The index number of farm prices (August 1909–July 1914=100) in United States for all groups of farm products in December was 126 compared with 110 in December, 1935. Grain advanced from 89 to 134. Cotton and cotton seed from 98 to 105. Fruits advanced only one point, that is from 92 to 93. Truck crop showed a substantial decline, falling from 136 to 99. The index of prices of meat animals was 122 compared with 120 in December, 1935. Dairy products rose from 108 to 127. Chickens and eggs declined from 135 to 133.

Index numbers of prices of agricultural produce in England and Wales are not available for December. The total index however was 125 in November compared with 113 in November, 1935. The monthly indexes for 1936 were consistently above those in 1935. The index of prices of fat cattle was 93 in November, 1936, compared with 92 in November, 1935. The index of bacon pigs however was 118 compared with 93 and that for wheat 114 compared with 78 in November of the previous year. These indexes do not take into consideration the payments under the Wheat Act or the Cattle Emergency Act.

During the calendar year 1936 Canada's trade with United States made notable gains. Exports of apples were 8,069 barrels compared with 2,586 in 1935. Maple sugar exported in 1936 amounted to 8,207,523 pounds as against 1,710,850 pounds in the previous year. Live cattle weighing over 701 pounds shipped to United States markets numbered 224,306 head, whereas 108,557 head were exported in 1935. Cheese exports to the United States reached 11,456,400 pounds last year, compared with 8,479,300 pounds during 1935. Total domestic exports were valued at $406,664,567 in 1936, as against $358,569,736 in 1935. Total imports from United States were valued at $369,856,000 in 1936, whereas in 1935 their value was $312,417,000.

The annual meeting of the Quebec Pomological Society was held in Montreal, January 20 and 21. Of interest to agricultural economists was the paper presented by Dr. J. E. Lattimer, Professor of Economics, Macdonald College, who gave an address entitled "Farm Wages and Union Wages of the Urban Worker" showing that farm wages declined much more in both the first post war depression from 1920 to 1923 and in that from 1930 to 1936 than did the wages in urban industries generally, and that the decline in farm wages from 1930 to 1936 was greater in Canada than in many other countries some of which regulate farm wages by statutes. Farm wages from 1929 to 1933 did not fall much more than land values.

On account of the regional occupation of those gainfully employed any discrepancy in wages results in depressed areas and social unrest. Reasons for the fall in farm wages include the drop in prices of farm products which ran below the general price level.

Reasons for the discrepancy in wages and discrepancy in prices include the handicaps hampering farming as compared with some other industries, particularly in preventing price declines.

Mr. A. Gosselin of the Agricultural Economics Branch, Ottawa, made an analysis of the man labour requirements in orchard farms and discussed the farm organization in relation to a better utilization of the family labour available throughout the year.

The report of the Canadian Farm Loan Board for the year ending March 31, 1936, states that 5,109 first mortgage loans were made amounting to $8,906,680 and 3,236 second mortgages were made during the year, the amount approved being $2,501,725. The largest number of both first and second mortgages were approved in the province of Quebec with Saskatchewan occupying second position.

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The ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
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THE ECONOMIC SITUATION

The improvement in general economic conditions continued during the first two months of the new year. Toward the end of January there was a slight reaction in the wholesale price index, but the price declines were by no means general and were confined chiefly to grains, raw silk, cocoa and sugar. During February the index moved upward again, influenced largely by prices of base metals. Prices of farm products as a group continued to show improvement and the index was 30 per cent higher than that of a year ago, but it should be remembered that grain prices have had a dominant influence in raising the index. This very considerable increase has brought the index of wholesale prices of Canadian farm products into line with the general wholesale price index, which has not shown such a marked increase, and has gone a long way toward correcting the very unfavourable conditions which have existed for nearly seven years, of farm prices remaining consistently below those of other industries generally. This will in turn help along the recovery by placing a greater purchasing power at the disposal of the farming communities. Indeed it may not be too much to suggest that this readjustment between the two price levels is a major essential of a general recovery in a country such as Canada, where more than a third of the population is directly dependent for its livelihood upon the soil and the remainder is indirectly affected.

Wheat prices declined somewhat during the latter part of January owing to heavy shipments to England of Argentine supplies and only moderate demand from Europe. No. 1 Manitoba Northern cash prices at Fort William and Port Arthur dropped 8⅛ cents per bushel during the month. The average price for the month was 124·7 cents per bushel compared with 84·8 cents a year ago. The average price for February was $1.27 per bushel and for the first week of March, $1.28½. International trade in wheat and wheat flour for the first thirty-one weeks of the present crop year, increased by 67 million bushels over the corresponding period of 1935-36. Shipments from North America and Argentina increased considerably, while shipments from Australia, Russia and the Danube declined. Total exports of wheat from Canada for the seven months ending February, 1937, are estimated to be 137·7 million bushels, an increase of nearly four million bushels over the figures for 1936.

The reopening of the export quota on live stock under the United States trade agreement, has stimulated exports to that country since January. By 11th March the following number of animals had been exported, the figures for the similar period of 1936 being shown in brackets. Beef cattle, 41,474 (22,995); dairy cattle, 1,718 (1,313); calves, 13,466 (2,795) and hogs, 17,138. The number of hogs exported for the corresponding period a year ago is not

Annual and Monthly Index Numbers of Prices and Production Computed by Dominion Bureau of Statistics

Year	Wholesale Prices 1926 = 100				Retail prices and cost of services (5)	Production (6) 1926 = 100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·2	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·4	57·1	73·9	79·1	102·4	103·3	87·4	128·4
1936....	74·6	70·1	67·0	75·3	80·7	112·3	114·4	82·7	141·3
1936									
Jan.....	72·9	65·9	59·0	77·5	80·4	106·2	107·9	54·5	131·4
Feb....	72·5	66·0	58·9	77·8	80·1	104·8	105·0	59·1	134·1
Mar....	72·4	65·5	59·2	76·0	80·4	104·0	105·2	77·1	132·4
April...	72·2	65·0	59·8	73·8	79·6	111·0	113·1	81·1	139·4
May...	71·8	64·8	59·9	73·0	80·0	107·6	108·5	149·5	141·4
June....	72·3	64·5	60·8	70·7	80·0	111·1	113·0	45·1	155·0
July....	74·4	66·3	63·2	71·6	80·4	110·8	112·0	77·5	134·2
Aug....	76·2	73·3	74·1	71·9	81·0	113·5	115·8	117·6	132·8
Sept....	76·4	74·4	74·2	74·7	81·1	120·0	123·9	116·6	136·7
Oct....	77·1	76·3	76·4	76·2	81·1	121·5	125·5	90·3	145·9
Nov....	77·2	77·1	75·6	79·5	81·4	118·5	121·7	72·7	158·3
Dec....	79·7	82·4	83·4	80·8	81·7	118·4	121·1	51·0	153·5
1937									
Jan.....	81·3	86·0	88·3	82·1	81·6	116·9	119·4	42·0	162·5
Feb....	82·9	87·0	89·6	82·6	81·8	115·0	117·7	31·4	170·0

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1935, p. 17.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1935, p. 53, and Monthly Mimeographs 1936 and 1937.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100.

Prices and Price Indexes 1913-1935, p. 117, and Monthly Mimeographs, 1936-1937.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

Yearly index numbers for 1936, subject to revision.

Production indexes for 1936 were revised due to changes in the seasonals to reflect the influence of recent years. Other alterations were the addition of the output of creamery butter and the substitution of the production of factory cheese for cheese exports.

recorded. No shipments of live cattle were made during the year to the United Kingdom until 11th March when 180 steers and 18 bulls were exported. This is the first shipment since last November. Canadian prices for steers have fluctuated within narrow margins since the beginning of the year, top prices at Toronto ranging between $7 to $7.50 per hundredweight. Prices of veal calves varied a little more widely and top prices ranged from $9.25 to $12. Both steer and calf prices were about a dollar a hundredweight more favourable than a year ago. Select bacon hog prices at Toronto were fairly steady at about $9 per hundredweight and did not compare quite so favourably with the average price for the corresponding weeks of 1936 of about $9.25.

Butter prices during January remained comparatively firm and averaged 27·6 cents a pound for first grade at Montreal—about the same as a year ago. Increased receipts of eggs caused lower prices at many points, but a mild recovery occurred toward the end of January, as more wintry conditions retarded production. Prices in Western areas remained firm in response to light supplies.

The economic improvement was reflected in the external trade figures for January. The value of exports increased 18·7 million dollars over the same month of 1936, a gain of 18 per cent; and the value of imports increased 11·3 million dollars, representing an improvement of 28 per cent. Moderate increases were also shown over the levels of last December.

Railway freight movement was heavier in January than in the corresponding month of last year, but showed a decline after seasonal adjustment from December. Total cars loaded in the first five weeks of the year numbered 231,500 against 193,300 in the same period of 1936. Nine of the eleven commodity groups included in the index recorded gains, while coke and wheat loadings showed a decline—the latter by only ten cars. The gain in miscellaneous commodity (mainly manufactured products) carloadings was outstanding at 14,082 cars and the movement of l.c.l. merchandise and coal showed considerable increases over 1936.

The seasonally adjusted index of general employment in Canada on 1st January was the highest since the autumn of 1930. A slight recession occurred during the month and the index on 1st February had lost just over one point. Speaking generally of the first two months of the year, employment has shown improvement of a seasonal character in manufacturing industries, in which there was a gain of 14,550 workers among firms filing returns, or an increase of 2·8 per cent as compared with 1st January, 1937. Among the factory group, employment has shown the greatest gains in the iron and steel and the textile and leather industries. In the non-manufacturing industries, logging, mining and railway construction and maintenance recorded improvement. Employment in retail trade is more satisfactory. Seasonal reductions in staffs, which had been increased for the Christmas trade, occurred during January, but the number laid off was the lowest for many years and the component index on 1st February, 1937, compares most favourably at 128·4 (base 1926=100) with that of a year ago of 121·6.

Farm prices showed an upward tendency in the United Kingdom during January and the index, after adjustment for cattle and wheat subsidy payments (base 1911-1913=100), gained three points over the figure for December, 1936, and eleven points over the same month of a year ago. Increases and decreases were fairly evenly divided. Grains, fat cattle and sheep, hay and wool prices were more favourable, but prices of fat pigs, eggs, butter, cheese and potatoes declined. During the year 1936, twelve agricultural products registered considerable price gains, led by wheat with a 40 per cent increase, potatoes 38 per cent, cheese 15 per cent, vegetables 13 per cent and bacon hogs 10 per cent. Substantial increases were made by butter, eggs, wool and pork prices. Gains for fat cattle were only 5 per cent. Prices for oats, hay and fruits declined, the latter by 26 per cent.

The seasonally adjusted index of employment (1926=100) in Canada was 103·9 in February 1936 and 109·9 in February 1937.

CONSUMPTION OF CREAM IN CANADA[1]

G. P. Boucher

This article is the third of a series dealing with the study of milk and cheese consumption in Canada, undertaken in the summer of 1935.[2] Its main purpose is to show the average consumption of different kinds of cream in various localities of Canada and the influence which the annual family income might have on the consumption of cream.

Consumption of Cream.—The consumption of cream as well as the consumption of almost any other food product may vary with the locality. It may not be the same in urban as in rural areas and it may also vary to quite an extent from one rural area to another and from one urban area to another.

A study of Table 1 shows that the consumption of cream is highest in farm areas where it stands at about 0·36 pint per capita per week. It is almost the same in cities as in villages, the figures showing a weekly per capita consumption of 0·26 and 0·25 pint respectively. This gives an average figure of 0·28 pint for all localities. The same trend is revealed when the data are studied on a per family instead of on a per capita basis.

All localities situated in Alberta show a much higher consumption of cream than localities situated in either Ontario or Quebec. In the city of Calgary, the consumption is 0·48 pint, while in the cities of Oshawa and Quebec it is about one-third lower, being 0·17 and 0·14 pint respectively. The difference is still greater with the villages. The weekly per capita consumption is 0·49 pint in Claresholm and only 0·09 pint in Uxbridge and 0·11 in St. Romuald.

The farm areas show great variations in the rates of cream consumption. The two non-cheese-producing farm areas show a larger consumption than the two cheese-producing areas and the Alberta farm area shows a much higher consumption than the other two farm areas. The Quebec cheese-producing farm area has quite a low consumption of cream with a weekly per capita consumption of only 0·8 pint and a weekly per family consumption of 0·62 pint. The latter is an even lower rate than the per capita consumption for the Alberta rural area.

Consumption of Whipping Cream.—The consumption of whipping cream is higher in villages than in farm areas and cities. The Alberta farm area shows a very low consumption of whipping cream, the figures for per capita and per family consumption being ·01 and ·03 per week respectively compared to an average of ·09 and ·52 per week for all farm areas.

Consumption of Table Cream.—The consumption of table cream is higher in the farm areas than in the other areas. The per capita and the per family consumption figures are 0·22 and 1·22 pints per week respectively compared with an average of 0·11 and 0·51 pint per week for all localities. The figures for the consumption of table cream are also higher for the three villages than for the three cities. It is due mostly to the fact that the consumption of table cream is quite higher in Claresholm than in any other village or city.

Consumption of Cereal Cream.—The consumption of cereal cream is almost a negligible factor in every locality but Oshawa, Calgary and the two Ontario farm areas. In Calgary, it is higher than the consumption of either whipping or table cream.

It will be noticed that the figures in "total cream" column are a little higher than the figures that would be obtained by adding the figures for whipping, table and cereal cream. This is due to the fact that some house-

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Preliminary statement subject to revision and correction.

*Other articles dealing with that survey appeared in the June and August issues of the Economic Annalist.

wives could not allocate the consumption of cream to different uses, although they could give reliable figures for the total consumption of cream.

There is a direct relationship between consumption of cream and family income as shown in the second table. Consumption of cream by people on relief is exceedingly low. It is only ·07 pint per capita and 0·36 pint per family per week. This compares with a per capita consumption of 0·47 pint per capita and 2·58 pints per family for families with an annual income of over $4,000. The increase in the rate of consumption with the increase in family income is quite sharp for all income groups under $4,000. When this income group is reached however, the maximum rate of consumption seems also to be reached. The highest income group is also the only one showing a larger consumption of whipping than table cream. The consumption of cereal cream for this income group, however, is lower than the one for the preceding income group ($2,000-$4,000).

TABLE 1—WEEKLY CONSUMPTION OF CREAM IN VARIOUS LOCALITIES OF CANADA, 1935

Locality	Number of families	Number of persons	Per capita and per family consumption per week.							
			Whipping cream		Table cream		Cereal cream		Total cream	
			Per capita	Per family	Per capita	Per family	Per capita	Per family	Per capita	Per family
			(pints)	(pints)	(pints)	(pints)	(pints)	(pints)	(pints)	(pints)
Cities—										
Oshawa	816	3,365	·05	·20	·06	·26	·04	·15	·17	·71
Quebec city	790	4,686	·06	·33	·07	·39	....	·01	·14	·84
Calgary	996	3,994	·11	·46	·14	·58	·21	·84	·48	1·94
Totals or averages for cities	2,602	12,045	·07	·34	·09	·42	·08	·38	·26	1·22
Villages—										
Uxbridge	102	345	·06	·22	·01	·02	....	....	·09	·32
St-Romuald	48	287	·07	·41	·03	·18	....	....	·11	·65
Claresholm	101	432	·24	1·05	·24	1·03	....	....	·49	2·10
Totals or averages for villages	251	1,064	·14	·59	·11	·46	....	....	·25	1·09
Farm Areas—										
Ontario rural cheese producing area	50	221	·17	·77	·08	·37	·08	·35	·38	1·66
Ontario rural non-cheese producing area	52	236	·13	·59	·18	·81	·07	·31	·52	2·37
Quebec rural cheese producing area	49	361	·04	·32	·04	·29	....	....	·08	·62
Quebec rural non-cheese producing area	108	772	·13	·94	·03	·18	....	....	·17	1·23
Alberta rural area	101	409	·01	·03	·85	3·41	....	....	·86	3·48
Totals or averages for farm areas	360	1,999	·09	·52	·22	1·22	·02	·09	·36	2·00
Grand totals and averages	3,213	15,108	·08	·38	·11	·51	·07	·32	·28	1·30

TABLE 2—WEEKLY CONSUMPTION OF CREAM AS RELATED TO FAMILY INCOME, 3,213 FAMILIES IN THE PROVINCES OF ONTARIO, QUEBEC AND ALBERTA, 1935

Family income	Number of families	Number of persons	Per capita and per family consumption per week							
			Whipping cream		Table cream		Cereal cream		Total cream	
			Per capita	Per family	Per capita	Per family	Per capita	Per family	Per capita	Per family
			(pints)	(pints)	(pints)	(pints)	(pints)	(pints)	(pints)	(pints)
On relief	189	921	·01	·07	·02	·08	·02	·12	·07	·36
Under $1,000	1,263	5,868	·05	·22	·09	·43	·03	·16	·20	·91
$1,000—$2,000	1,060	4,978	·08	·38	·11	·52	·08	·32	·28	1·33
$2,000—$4,000	544	2,486	·14	·64	·17	·77	·13	·60	·45	2·08
$4,000 and over	151	826	·21	1·17	·15	·79	·08	·44	·47	2·58
Total	3,213	15,108	·08	·38	·11	·51	·07	·32	·28	1·30

*Six families did not state their incomes

LAND SETTLEMENT AND TENANCY IN THE LOMOND AND VULCAN DISTRICTS, ALBERTA

G. H. Craig

Much of the original land settlement on the Canadian Prairie Provinces was by homesteading and pre-emption which resulted in eventual ownership; but many of those who acquired land ownership in this way gave up farming or moved to other districts. Those who remained bought outright or rented from the first owners either as additions to their own land or as self-contained farms. Those farmers who wished to increase their holdings, usually did so by purchase, but more recently with the rapid expansion in the size of farms made necessary to adjust operations to the more highly mechanized method of farming, many land additions have been made by renting. Farmers who were without capital had, of course, no alternative and were forced to rent. Tenancy, therefore, is the normal outcome of the original method of settlement.

Among the farmers interviewed in the Lomond area in 1935, seventeen out of every hundred rented their farms, while in the Vulcan district, the figure was thirty-five. The percentage owning their farms entirely in Lomond was thirty-nine as against forty-three in Vulcan, and the figures for part-owners were forty-four and twenty-two respectively.

It would seem that in the drier area of Lomond where land is not so expensive, a larger proportion of farmers owned, at least a part of the land they worked. But the lower purchase price in this area possibly created a certain amount of speculative buying in anticipation of increased land values.

Racial origin plays a part in land tenure and the original migrants to the Canadian west had for their goal the eventual ownership of their farms. The slightly larger proportion of these original settlers or their descendants in the Lomond district, may in part be responsible for the greater number of farm owners in that area.

The tenure of land holdings is a factor of real concern to those who are interested in the conservation of land resources. It is generally true that a high proportion of ownership is indicative of comparative newness of settlement and also of the farmers' interest in the continued productivity of the soil. Where wind erosion and the weed menace are acute problems, the owner-operator usually maintains his land in a higher state of productivity over the years than the tenant. The tenants generally tend to move about much more frequently than the owners. This was indicated in the study by the average years part owners and tenants had remained on the same farm. In the Vulcan district, the owners had been on their farms an average of 20·5 years, the part owners 18·3 years and the tenants only 5·6 years. In the Lomond district, the figures were 19·5 years, 17·6 years and 5·1 years respectively. Some difference in the number of years on the same farm was, of course, due to difference in age of the three groups. Owners in the Vulcan district average 52·9 years, part owners 49·6 years and tenants only 43·8 years of age. Ages in Lomond were 53·8, 49·5 and 41·1 years respectively for the same groups.

In the least productive and most fluctuating fine sand soil belts, the tenants moved even more rapidly than from the better silt loam soil belts where soil drifting and weeds were not such acute problems. Since the tenants remained only for short periods on the farms, their efforts were confined to obtaining from their holdings the maximum "short run" returns. Such a procedure was not conducive to the most efficient "long run" methods of soil conservation. Improper and inefficient summerfallow methods may have been practised by the tenants which resulted in great deterioration of the soil through excessive soil drifting and the growth of weeds.

In general, it must be noted, however, that during periods of low prices, tenant operators are in a more favourable position than owner operators. Share

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Excerpt from a report on Land Utilization in the Vulcan and Lomond Districts, Alberta, based on a study made in 1935 and now in course of preparation. Subject to revision and correction.

rents fluctuate with the changes in the price of the crops and live stock produced and farm rents are reduced during times of low prices. This is not so true of the costs of land for owner-operators and landlords. Interest rates vary little during bad times and land debts actually increase in terms of farm prices. As a consequence, tenants pay less for the use of the land during depression periods, while owners still have capital charges to meet based on a pre-depression valuation. It was this factor more than any other, that accounted for the higher earnings among tenants than among owners during the year of the study.

While it is true that tenants were more inclined to " use up " the land than were the owners, and also true that the tenants were able to make more substantial returns during periods of depression, it was also true that certain factors offset these tendencies. The landlords whose chief interest is in " long run " returns from their land, charged higher rents to those tenants who did not maintain the productivity of the soil, or alternately required tenants, by contract, to summerfallow and follow such practices as would keep the farm in satisfactory condition. Further, the advantage which seemed to be with the tenants during the depression period was often more than offset during the periods of high prices for farm products. Landlords are able to charge relatively high cash rents at such times and owners-operators gain also for their capital charges become less burdensome as the price of farm products increase and come into line with their actual long term financial obligations, or provide a sufficient farm income to justify the original investment in the farm.

TABLE 1.—FREQUENCY DISTRIBUTION OF SEVERAL RENTAL CONTRACTS ACCORDING TO SOIL TYPE

—	Contracts	Share of crop					Cash and other	
		One-half	One-third	One-quarter	One-fifth	One-sixth	Cash	Other
	No.	No.	No.	No.	No.	No.	No.	No.
Vulcan—								
Blackspring silt loam	12	4	5	2	1	....	....	....
Vulcan fine sandy loam	11	3	4	4	....	....	....	....
Vulcan silt loam	47	12	32	1	1	....	....	1
Vulcan loam	32	12	18	1	....	....	....	1
Vulcan clay loam	18	4	12	2	....	....	....	....
Carmangay fine sand	30	10	8	11	....	....	....	1
Total	150	45	79	21	2	....	....	3
Per cent of total	100	30	53	14	1	....	....	1
Lomond—								
Sundial silt clay loam	3	1	....	2	....	....	....	....
Armada clay loam	37	8	6	20	2	....	1	....
Lomond-east clay loam	49	3	6	26	9	1	....	4
Lomond loam	82	16	7	28	26	2	....	3
Lomond fine sandy loam	19	5	....	8	5	1	....	....
Lomond fine sand	11	....	....	6	3	....	....	2
Total	201	33	19	90	45	4	1	9
Per cent of total	100	16	10	45	22	2	....	5

Among the farms included in the study, share-renting was almost universal and only one farm was being operated on a cash rent basis. In the Vulcan district where land values were higher, fifty-three per cent of all share rental agreements were on a basis of " one-third share of crop clear in the elevator," and 14 per cent on a " one-quarter share of crop clear in the elevator." On the other hand, in the less highly priced land in the Lomond district, the reverse was the case and only 10 per cent of all agreements called for one-third of the crop and 45 per cent were at the lower rate of a one-quarter share. Thus in the area of lower priced land with its less productive soil, the smaller gross returns were offset by a lower rent for the land. The preponderance of share-renting contracts over cash rents was an acknowledgment of the hazardous nature of profitable farming in this area.

PRELIMINARY COMPARISON OF CONSUMPTION OF VARIOUS AGRICULTURAL PRODUCTS IN CANADA

Charlotte I. Johnston

Considerable variation exists in the per capita consumption of various food products in different cities of Canada and in different rural areas. This fact is revealed by studies carried on during 1935 and 1936 by the Economics Branch of the Dominion Department of Agriculture in co-operation with Provincial Departments of Agriculture. Surveys were made concerning the consumption of milk, cheese* and eggs in the cities of Quebec, Oshawa and Calgary in 1935; concerning the consumption of meat, fish and eggs in Saint John and Montreal, and meat, fish, eggs and milk in Vancouver in 1936.

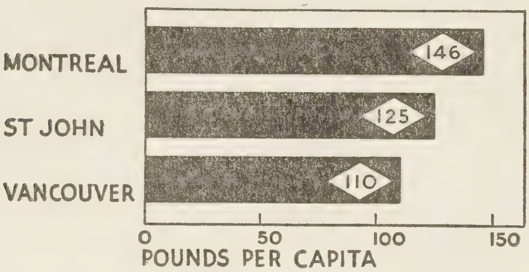

Figure 1.—Yearly Per Capita Consumption of Meat in Certain Cities, 1936.

The information was obtained by enumerators who went from house to house procuring answers to questionnaires from individual families. The number of families interviewed in each city was not proportional to its population, but it is believed that the records obtained were representative of each city.

The average per capita consumption of meat in 722 representative families in the city of Montreal was 146 pounds per annum. In Saint John, the consumption of meat was 125 pounds per person while in Vancouver the average amount of meat consumed per person in a year was only 110 pounds (Table 1, Figure 1).

Table 1.—Comparison of Per Capita Consumption of Meat, Fish, Eggs and Milk in Various Parts of Canada, 1935-36

—	Number of records	Number of persons	Average number of persons per family	Per capita consumption			
				Yearly			Daily
				Meat (lbs.)	Fish (lbs.)	Eggs (doz.)	Milk (pints)
Cities							
St. John	492	2,287	4·6	125	24	17	....
Quebec	790	4,686	5·9	....	....	17	·68
Montreal	722	3,645	5·0	146	16	16	....
Oshawa	816	3,365	4·1	....	....	26	·71
Calgary	996	3,995	4·0	....	....	24	·74
Vancouver	1,083	4,259	3·9	110	22	19	·65
Villages							
St. Romuald, Que	48	287	6·0	....	....	15	·40
Uxbridge, Ont	102	345	3·4	....	....	25	·73
Claresholm, Alta	101	432	4·3	....	....	31	·70
Farm Areas							
Quebec cheese producing area	49	361	7·4	....	....	15	1·20
Quebec non-cheese producing area	108	772	7·1	....	....	14	·74
Ontario cheese producing area	50	222	4·4	....	....	26	·96
Ontario non-cheese producing area	52	236	4·5	....	....	28	·85
Alberta area	101	407	4·0	....	....	47	1·40

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*Figures relating to the consumption of cheese will be presented in a later issue of the Economic Annalist.

The fact that the consumption of meat tends to increase with the severity of the winters in the three cities seems to indicate some relationship between climate and meat consumption. Meat consumption may also be related to nationality. Of the records taken in Montreal 90 per cent were from families of French origin, while those of Saint John and Vancouver were largely from families of British origin. In Vancouver, however, over 8 per cent of the records were from Chinese and Japanese families whose consumption of meat is low, as shown in Table 2. A further analysis of the relation between national origin and consumption will be made and published later.

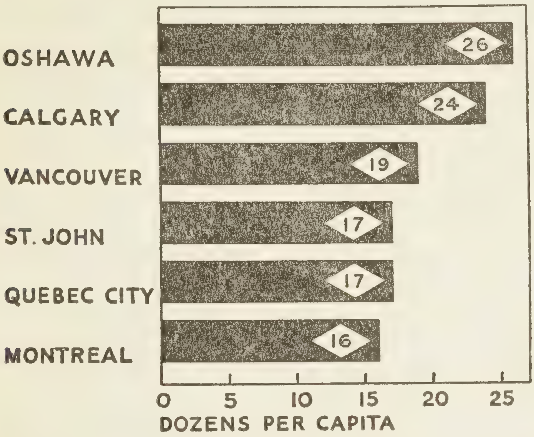

Figure 2.—Yearly Per capita Consumption of Eggs in Certain Cities, 1935 and 1936.

The availability of fish in Saint John and Vancouver obviously accounts for its greater use in these cities and for its substitution for meat to some extent. The per capita consumption of fish in Saint John in the families interviewed was 24 pounds per year, in Vancouver 22 pounds and in Montreal 16 pounds.

The city of Montreal had the lowest per capita consumption of eggs of the various cities studied but it had the highest per capita consumption of meat. Vancouver with a low per capita consumption of meat had a slightly higher per capita consumption of eggs. Of the six cities in which information was obtained on consumption of eggs, Oshawa led with 26 dozens per person per year, Calgary was next with 24 dozens, while Montreal was lowest with 16 dozens. (Figure 2).

It will be observed that there was considerable variation also in the number of persons per family in the six cities in which the studies were made.

The consumption of meat, eggs and milk was much lower in the Chinese and Japanese families from which records were obtained in Vancouver than in the families of other racial types (Table 2). The consumption of fish, on the other hand, was considerably higher in the Oriental families, particularly the Japanese families.

Table 2.—Comparison of the Per Capita Consumption of Meat, Fish, Eggs and Milk by Chinese, Japanese and Other Racial Types in Vancouver

—	Number of records	Number of persons	Average number of persons per family	Per capita consumption			
				Yearly			Daily
				Meat (lbs.)	Fish (lbs.)	Eggs (doz.)	Milk (pints)
Chinese	46	303	6·6	80	24	12	·45
Japanese	45	254	5·6	91	44	16	·40
Other racial types	992	3,702	3·7	113	21	20	·69
Total	1,083	4,259	3·9	110	22	19	·65

Further information on the consumption of various food products mentioned above will be presented in later issues of the *Economic Annalist.*

THE NATIONAL ASPECT OF THE TORONTO MARKET FOR FRESH FRUITS AND VEGETABLES

W. C. Hopper

The increase in the size of Canadian cities has been accompanied by a change in consumers' methods of buying fresh fruits and vegetables and an increase in the demand for, and the supply of these commodities in our cities. Before the advent of the motor truck the supply came almost entirely by horse and wagon from within a radius of each city probably not exceeding 15 miles, or by rail. A large proportion of the requirements of city families for this class of food products was purchased at the retail public market where consumers came in direct contact with producers. With the increasing public interest in dietetics, the value of fresh fruits and vegetables has been more generally realized, and there has been a marked increase in the demand for these foods. The refrigerator car has made it possible to obtain supplies in all seasons of the year and the motor truck and the development of good roads has greatly widened the area from which local supplies can be obtained. Consumers now purchase the major proportion of their needs from retail agencies such as the independent and chain grocery store and the city peddler. These agencies, in turn, purchase their supplies direct from farmers, from truckers and from wholesalers. The larger Canadian cities have become concentration points where supplies can be obtained for consumption in smaller centres of population.

Unfortunately this revolution in the marketing and distribution of fruits and vegetables has not been accompanied by the creation in our cities of

Table 1.—Origin of Carloads of Fruits, Vegetables and Potatoes Unloaded in Toronto during 1935

Origin	No. of cars	Origin	No. of cars
Canada—		*United States*—Con.	
Ontario	152	Mississippi	86
British Columbia	108	Missouri	3
Manitoba	1	New Jersey	8
New Brunswick	213	New York	1
Nova Scotia	7	Oklahoma	7
Prince Edward Island	829	Oregon	10
Quebec	22	Tennessee	34
		Texas	254
Total (excluding Ontario)	1,180	Virginia	113
		Washington	1
United States—		Total United States	3,836
Alabama	3		
Arizona	233		
Arkansas	20	*Other Countries*—	
California	2,113	Mexico	234
Carolina North	25	Australia	18
Carolina South	76	America Central	197
Colorado	1	America South	24
Delaware	75	Egypt	36
Florida	464	Italy	127
Georgia	99	Palestine	3
Idaho	1	Spain	55
Illinois	2	South Africa	4
Indiana	18	West Indies	1,251
Kentucky	41		
Louisiana	84	Total Other Countries	1,949
Maryland	47		
Massachusetts	17	Grand Total	7,117

From a preliminary report of a study conducted by the Economics Branch in co-operation with the Dominion Fruit Branch and the Ontario Department of Agriculture. *See also* Economic Annalist, February, 1937.

facilities which will accomplish, in the most economical manner, the transfer of the great volume of these perishable farm commodities from the different classes of sellers to the retail agencies who purchase for resale to consumers.

Supply comes from a Wide Area.—The larger Canadian cities have become national markets for fresh fruits and vegetables. Approximately 250,000 tons of these products were sold at wholesale in Toronto in 1935. At prices laid down in Toronto, this great quantity was valued at approximately $13,000,000. These figures do not include the large quantity purchased by Toronto consumers at retail public markets, direct from growers selling from door to door, from roadside stands and from the farm.

About 57 per cent of the tonnage sold at wholesale arrived in Toronto by motor truck, about 41½ per cent by rail and about 1½ per cent by boat and l. c. l. express and freight. There were nearly fifty different kinds of fruits and vegetables handled.

The origin of the supply of these perishable products received in Toronto by rail gives an indication of the national aspect of the Toronto market (Table 1). Carloads of these products were received from 7 of the 9 Provinces of Canada during 1935, from 27 different States of the Union and from 10 other countries.

Of the volume arriving in Toronto by motor truck, about 98 per cent came from Ontario. Less than half of 1 per cent came from other Canadian Provinces and about 2 per cent from the United States. The widespread source of the supply of fruits and vegetables sent to Toronto from Ontario is shown by the quantities obtained by Toronto wholesalers and jobbers from different districts (Table 2 and Figure 1).

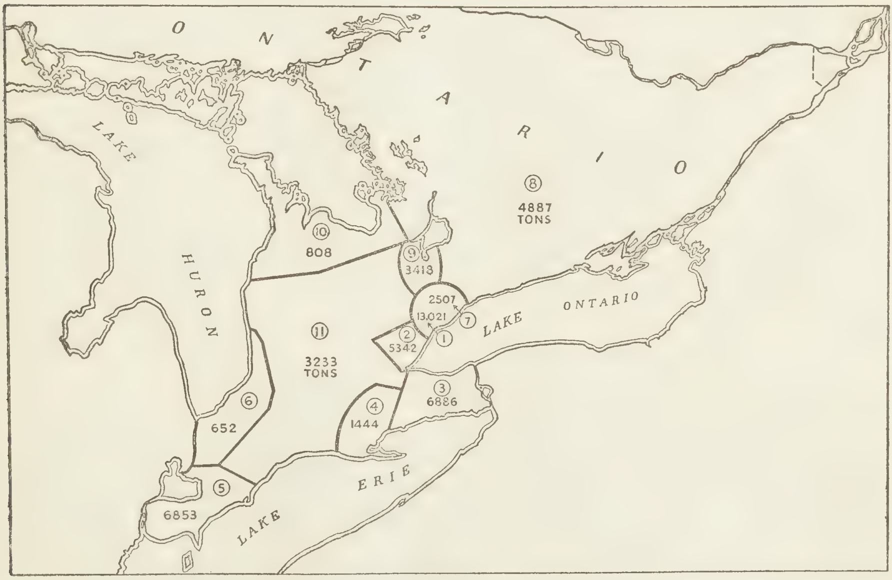

FIGURE 1.—Tonnage of Fresh Fruits and Vegetables Obtained from Various Districts of Ontario by 39 Toronto Wholesalers During 1935.
(Figures in circles refer to districts in Table 2).

Table 2.—Tonnage of Fruits and Vegetables from Ontario Handled by 39 Toronto Wholesalers during 1935*

District	No. on map	Tons	%	District	No. on map	Tons	%
Toronto West	1	13,021	27	East of Toronto (beyond 20 miles)	8	4,887	10
Oakville-Burlington	2	5,342	11	Bradford	9	3,418	7
Niagara	3	6,886	14	Georgian Bay	10	808	2
Norfolk	4	1,444	3	Other Districts	11	3,233	6
Leamington	5	6,853	14				
Thedford-Sarnia	6	652	1				
Toronto East	7	2,507	5	Total	......	49,051	100

*Does not include about 560 tons of blueberries from Northern Ontario and Quebec.

Extensive Demand Area.—More than 43,500 tons (worth more than three million dollars), of fresh fruit and vegetables were sold by or through different Toronto agencies during 1935 for consumption in cities, towns and villages outside of Toronto. Wholesalers handled 30,510 tons of this produce valued at $2,336,500; brokers, 279 tons valued at $23,628; banana jobbers, 853 tons valued at $78,053; chain stores, 9,377 tons valued at $575,698 and the Dundas market, 2,519 tons valued at $66,000. The produce was moved by rail and by motor-truck.

A total of 151 railroad cars were loaded with fruits and vegetables in Toronto during 1935. The distribution of the destinations of these cars is shown in Table 3.

Table 3.—Number of Carloads of Fruits and Vegetables Loaded in Toronto for Points in Ontario and Elsewhere, 1935

Place	No. of cars	Place	No. of cars
Ontario—		*Ontario*—Con.	
Ottawa	13	Timmins	3
Kingston	6		
Windsor	1	Total Ontario	103
Wingham	1		
Stratford	1	*Other Provinces*—	
St. Catharines	1	Quebec	3
Thorold	1	Montreal	37
North Bay	25	Halifax	3
Sudbury	32		
Cochrane	1	Total Other Provinces	43
Kirkland Lake	6		
Noranda	1	*Foreign*—	
Gore Bay	1	New York	2
Fort William	3	Boston	3
Port Arthur	3		
Kenora	1	Total Foreign	5
Sault Ste. Marie	1		
Guelph	1	Grand Total	151

Wholesalers and jobbers made credit sales of $2,500 or more to 54 different places (Figure 2). In addition to these 54 places, produce was shipped to 250 other centres of population.

Importance of Toronto Prices.—The prices paid in Toronto for fruits and vegetables have a very important bearing on those paid for similar produce over a wide territory. This is demonstrated by the volume of such products handled in Toronto, the distant points whence supplies arrive and the wide

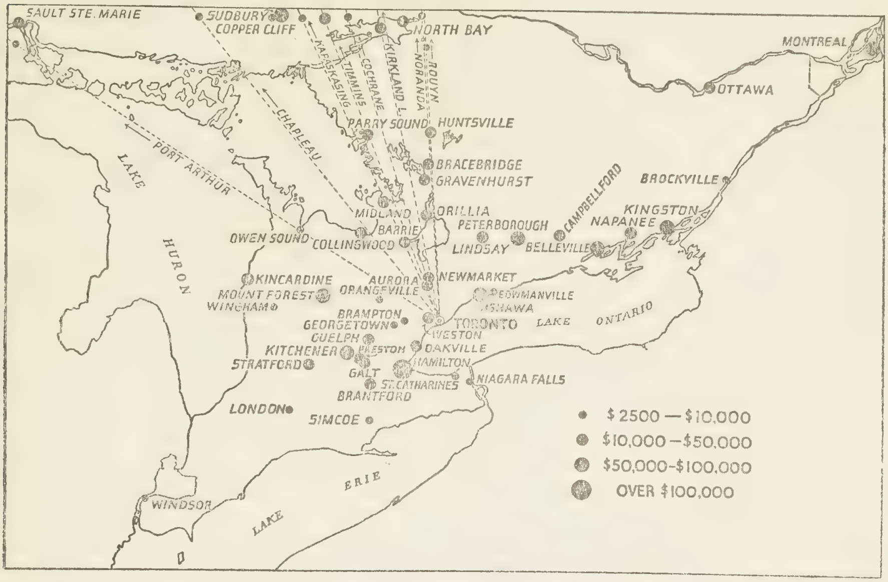

FIGURE 2.—Distribution of Credit Sales of Toronto Wholesalers and Jobbers to 54 Different Cities, Towns and Villages in 1935.

area served in satisfying demand. Provision for marketing facilities in Toronto where the supply of and the demand for these products would be concentrated, would eliminate unnecessary marketing costs and should result in the establishment of prices which will more accurately reflect the true condition of supply and demand. If proper publicity be given to these prices from day to day, they would be available to producers and handlers as a basis for determining the accuracy of the prices received and paid for similar produce in the various marketing points throughout Ontario. In the present unorganized condition of the Toronto market, it is not possible for growers, truckers, wholesalers, commission merchants or retailers to know if the prevailing prices for fruits and vegetables, particularly those grown in Canada, are truly competitive prices. Moreover, a modern wholesale market in Toronto would tend to lend stability to the prices of these perishable products. Experience has shown that where prices are relatively stable, even though they may be on a higher level, dealers become more active merchandisers and will handle a larger quantity than when there is no stability in price. In the latter case, they become merely passive order-takers.

COMMERCIAL POULTRY FARMING

A summary of the results on commercial poultry farms in New York State for the five years 1929-1933 is presented in a publication of the Department of Agricultural Economics and Farm Management, Cornell University, Ithaca, N.Y., under the editorship of E. G. Misner. Records were obtained from 600 farmers, 304 of whom sold chicks. Some of the results of the study are given in this article, and unless stated otherwise, all figures quoted are averages for the five years 1929-1933.

The average value of eggs was 32 cents per dozen, exactly the same as the cost of production. Net worth from year to year was therefore only increased by savings from wages and the interest on unmortgaged capital. Both costs and prices were decreasing over the five years studied. Each increase of 1 cent a dozen in cost of production decreased the labour income by $62. Production costs of two-thirds of the commercial poultry men were too high to return the best labour incomes.

While the labour income was highest on farms with fairly high capitalization, the cost of production was also slightly increased on such farms. Investment may often be kept at a moderate figure by converting old buildings into use for poultry; and capital expenditure on flock replacements can be kept at a minimum by raising healthy chickens on the farms.

Small flocks of 654 layers returned an average labour income of $471; average flocks of 1,095 layers, $976 and large flocks of 2,210 layers, $1,958. An increase of one hundred layers increased the labour income by $98. The commercial poultryman should aim to develop a business with more than 2,000 layers. The average cost of production was, small flocks 32·6 cents per dozen, average flocks 32·0 cents per dozen and large flocks 32·3 cents per dozen. A high labour income cannot be expected from a one man business producing 8,000 dozen eggs or less per year. A total egg production of at least 20,000 dozen annually is necessary for an efficient poultry plant, and such a plant would require one man in addition to the operator.

A major factor in successful poultry farming is a high production of eggs per hen. Farms with a high production averaged 181 eggs per bird per year at a cost of 28 cents per dozen; farms with average production averaged 149 eggs at a cost of 31·6 cents per dozen and farms with low production averaged 116 eggs at a cost of 37·0 cents per dozen. Each increase of a dozen eggs per bird decreased cost of production by 1·67 cents per dozen eggs. A production of more than 150 dozen eggs per hen a year is necessary for the higher labour incomes and a high rate of lay in the fall, when egg prices are high, is an adjunct to a profitable undertaking. Each increase of 1 per cent lay in the three months October to December, increased the labour income by $51.

As the income from the sale of chicks and pullets increased 10 per cent, so the cost of production per dozen eggs increased by 1·65 cents per dozen. Nevertheless, a diversity of about 20 per cent of total income from the sale of pullets and chicks brought highest returns. Early hatched pullets which lay in the fall prove profitable. In general, pullets are less important on diversified poultry farms than on market egg farms.

Farms producing only 4,333 dozen eggs per man employed, returned a labour income of $606 to the operators, farms producing 7,520 dozen returned $1,154 and farms producing 13,092 dozen returned $1,959. The average for all farms was 7,870 dozen for each man employed. To return a worth-while labour income, labour needs to be from 50 per cent to 75 per cent more efficient than the average.

On farms wtih the lowest labour efficiency the number of birds cared for per man was 372, and on farms with the highest labour efficiency it was 1,263 birds per man. More than 1,200 birds per man are necessary for lowest costs.

Other measures of efficiency for successful results are: a labour charge—including operator's time—of less than 25 per cent of the receipts, a rapid capital turnover requiring less than two years for receipts to equal capital, size and labour factors at least 50 per cent above the average poultry farm and rates of production 10 per cent to 20 per cent better than average.

An increase of almost $200,000,000 was shown in Canada's exports during the eleven months ending 28 February over the corresponding period of 1936. Exports of Canadian produce during February recorded a gain of about 12 million dollars over the figure of a year ago and were worth $74,791,596.

ECONOMIC LITERATURE

SHEPHERD, GEOFFREY, Livestock Marketing Methods in Denmark, Great Britain and Canada, Bulletin 353, Iowa State College of Agriculture, Ames, Iowa, January 1937.

Eighty-four per cent of the hog slaughter in Denmark is conducted in Government packing plants or " bacon factories." The average annual slaughter per plant is normally about 80,000 head, ranging from 350,000 down to 17,000. The average number of patrons per factory is about 3,600. Since the representative farm in Denmark is close to forty acres in size, the 3,600 farms comprising an average bacon factory territory, cover about 225 square miles.

Before the depression, the Danes exported 80 per cent of their bacon, practically all of which went to Great Britain.

When the depression came, the British import quota regulations cut down imports from Denmark to less than two-thirds of the previous amount. To meet this drastic reduction, the Danes worked out a bacon production control program which cut Danish hog production almost in half.

The bacon is exported in the form of a relatively simple product, the Wiltshire side which is pickled in brine for three or four days, but not smoked, before shipping.

Danish farmers sell practically all of their hogs direct. The hogs are sold by individual carcass weight and grade. The farmer is paid according to the individual weight and grade of his hog carcasses on the same day he brings in the hogs. In other words, Danish farmers do not sell hogs; they sell hog carcasses. Over-weight and under-weight hogs are sharply penalized. The Danes do not sell their hogs in large lots, but "top them out" a few at a time when they reach the proper weight.

Hog prices (or rather hog carcass prices) do not fluctuate from day to day and vary from one market to another in Denmark. Each Friday prices are set for the following week by a committee of six co-operative bacon factory representatives and broadcast Friday evening over the radio. The price set is based very largely upon the state of the English market, the number of bacon carcasses remaining unsold there and the prospects for the coming week. This method of price determination simply removes the minor day-to-day fluctuation. The committee attempts to set its price at a level that will clear the market for the week, that is, a price that will move all the products into consumption.

" The farmer," observes the author, "does not need to tune in (even if he has a radio) on half a dozen markets in order to keep abreast of price changes and pick out the highest prices. He simply looks up the official price once a week. For that matter, he does not even need to look up the price; he knows that the co-operative bacon factory will pay him the official price, no more and no less, in any case."

In summarizing the section of the Bulletin dealing with hog marketing practices in Denmark, the author states "organization of the structure of the market, standardization of the products and sophisticated methods of price determination adapted to a modern decentralized marketing system overtake the initial disorganizing effects of decentralization, simplicity overtakes disorganization. The Danes appear to have attained this advanced stage of marketing development."

In describing livestock marketing in Great Britain, the author says it has always been a small scale, heterogeneous, unorganized affair. The bulk of the livestock has generally been sold to small primitive local auction at so much per head. The British bacon factories are numerous and small. The average English factory slaughters only about 20,000 hogs a year.

In 1933, the British set up a " Pigs Marketing Scheme " in an attempt to improve the marketing of bacon hogs. This scheme dispensed with the local auction method of sale. It provided that all bacon hogs must be sold under contract with bacon curers (meat packers) on an individual carcass weight and grade basis; the contract called for the delivery of a stated number of hogs through the year.

The weighing and grading of the carcasses are done jointly by a packer-grader and a Pigs Marketing Board grader. The grading is based upon the weight of the carcass and a few measurements made by special calipers.

Under the "Pigs Marketing Scheme" hog prices are set monthly by a fixed formula in relation to (*a*) the cost of a specified hog feeding ration, and (*b*) the wholesale price of bacon. The formula is set up fresh each year by direct negotiation between the "Pigs Marketing Board," representing the farmer, and the "Bacon Marketing Board," representing the bacon curers.

As there were not sufficient contracts signed by producers for 1937, it was decided that the Scheme could not be operated. However, the scheme has not been revoked but activities under it have been suspended for the present.

An additional but voluntary scheme called the National Grade and Dead Weight Scheme was set up in 1930. Under this scheme any kind of livestock can be sold on the basis of its carcass weight and grade. Government graders at the large markets do the weighing and grading of the carcasses that are handled on this basis and settlement is made according to the carcass weight and grade. The numbers of livestock handled under this Scheme are increasing rapidly, but the percentage of the total livestock is still small.

The Bulletin contains a very good summary of livestock marketing practices in Canada. About twenty pages of the Bulletin are devoted to this subject. None of the facts presented will be included in this abstract.

Bulletins written in such a clear style and in such expressive language are very useful. They present to a reader in a short space of time, a comprehensive picture of marketing practices, and a series of such bulletins covering the marketing of important agricultural products in the countries which specialize on their production would constitute a valuable addition to the library of agricultural economists and other students of marketing.

NOTES

A trade agreement has recently been signed between the United Kingdom and Argentina. Provision is made for duties of ¾d. a lb. on chilled beef and 2/3d. a lb. on frozen beef, and for corresponding duties — mainly 20 per cent ad valorem — on other classes of beef imports. Imports of mutton and lamb and pork are accorded free entry into the United Kingdom, but all meats are subject to quantitative regulations. The agreement consolidates existing duties on wheat and linseed. Maize (except flat white maize) remains free of duty. Wheat, maize, linseed and wheat offals continue free from quantitative regulation.

The new English livestock act which it is expected will be ready for third reading about June, places a premium upon home-bred cattle of eligible quality and expresses the desire of the Government, so far as practicable, to encourage the home breeder. The proposed subsidy of 5/– per cwt (112 lbs.) live weight for home bred animals and 2/6 per cwt for imported animals of "ordinary" quality, is to be augmented by a further 2/6 per cwt in each case, for animals conforming to certain "quality" requirements. The present rate of subsidy is a general one of 5/– per cwt. Other sections of the Act deal with live stock markets and auctions, experimental central slaughtering, insurance of live stock, the advertising of meat and the appointment of a Livestock Advisory Committee. Scope has been left for producers to organize themselves by a marketing scheme under the Agricultural Marketing Acts, if they so desire.

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The ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
OTTAWA

Vol. VII, No. 3
Published by Authority of the Hon. James G. Gardiner
Minister of Agriculture
June, 1937

THE ECONOMIC SITUATION

The International Outlook.—In reviewing the League of Nations figures of world production and foreign trade for the last decade, it is of interest to note that an upward trend was shown as early as 1933. True it was only slight, but it marked a turning point both in volume of industrial production and in increasing international trade. The following years each showed decided improvement and the year 1936 recorded a gain of nearly fifty per cent in world production over the low figures of 1932 and an improvement of about thirteen per cent in world foreign trade.

Industrial production increased in Canada along with an almost equal increase in export trade. In the United Kingdom and the United States, the proportion of increased production entering export channels was considerably less and more was absorbed into the domestic market. Russia, while her volume of industrial production more than doubled, recorded a decline in exports of fifty per cent.

International employment figures for 1937 show encouraging gains and at the end of March, reductions in the number of unemployed were reported from almost every country, the returns for the first three months of the year being particularly bright.

Considered generally the outlook for continued improvement in international economic conditions is better than it has been for a number of years. At least in some quarters the policy of intense nationalism and attempted self-sufficiency practised by many countries, is giving way to the broader conception of less restricted import markets and as a consequence, to freer international trade. Many difficult problems still remain, the major one being perhaps the lack of foreign exchange by many potential importing nations, but this less insular approach, has unbounded possibilities and as yet only its early effects are seen. At the present time world demand is concentrated on comparatively few major products—wheat, base metals, steel, forest products; and this is tending to localize the improvement to countries producing these commodities. But there seems no reason to suppose other than that, with a rising price level, world demand will become more evenly distributed among a greater range of commodities.

The Situation in the United Kingdom.—The importance to Canada of the British market and the leading role that Country plays in international affairs, makes the immense defence program being undertaken there of vital importance in world economy. With the expenditure of £1,500 million during the next five years, nearly two-thirds of which is to be met from current revenue, danger of over-expansion is possible. But experience is a hard taskmaster and early indications point to an orderly development of the armament program

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

Year	Wholesale Prices 1926 = 100				Retail prices and cost of services (5)	Production (6) 1926 = 100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	6[illegible]·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·4	57·1	73·9	79·1	102·4	103·3	87·4	128·4
1936....	74·6	70·1	67·0	75·3	80·7	112·3	114·4	82·7	141·3
1936									
May...	71·8	64·8	59·9	73·0	80·0	107·6	108·5	149·5	141·4
June....	72·3	64·5	60·8	70·7	80·0	111·1	113·0	45·1	155·0
July....	74·4	66·3	63·2	71·6	80·4	110·8	112·0	77·5	134·2
Aug....	76·2	73·3	74·1	71·9	81·0	113·5	115·8	117·6	132·8
Sept....	76·4	74·4	74·2	74·7	81·1	120·0	123·9	116·6	136·7
Oct....	77·1	76·3	76·4	76·2	81·1	121·5	125·5	90·3	145·9
Nov...	77·2	77·1	75·6	79·5	81·4	118·5	121·7	72·7	158·3
Dec....	79·7	82·4	83·4	80·8	81·7	118·4	121·1	51·0	153·5
1937									
Jan.....	81·3	86·0	88·3	82·1	81·6	116·9	119·4	42·0	162·5
Feb....	82·9	87·0	89·6	82·6	81·7	115·0	117·7	31·4	170·0
Mar....	85·5	90·0	93·4	84·2	82·0	118·7	122·4	37·3	178·6
April...	86·1	91·4	94·4	86·3	82·2	....	....	....	....

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1935, p. 17.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1935, p. 53, and Monthly Mimeographs 1936 and 1937.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100.

Prices and Price Indexes 1913-1935, p. 117, and Monthly Mimeographs, 1936-1937.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

Yearly index numbers for 1936, subejct to revision.

Production indexes for 1936 were revised due to changes in the seasonals to reflect the influence of recent years. Other alterations were the addition of the output of creamery butter and the substitution of the production of factory cheese for cheese exports.

and as rigorous control as is possible by government, of tendencies which might fast lead to an inflated industrial structure such as was left as a legacy of the war. It was this condition in large measure which proved so disastrous to British export trade when the gold standard was resumed in 1925. While some increase in the general price level is inevitable, it is not necessarily harmful, indeed within reason it is essential to more prosperous conditions and a policy of pay as you go for two-thirds of the expenditure, together with balanced budgets, should be a good preventative against the creation of a speculative boom condition. The tax on excess defence profits introduced in this year's budget, criticized as it is in many quarters, would in itself appear to be a curb against inflation.

Although export trade has lost much ground, figures for the early months of the year show improvement. The efforts directed towards reorganization of the Lancashire cotton industry for instance, is bearing fruit and the close of 1936 found a distinct revival in this trade. Shipbuilding is improving and the tonnage of ships under construction at the end of March was over a million tons, the highest figure since 1930 and almost half of the total world construction. It is particularly encouraging to note the increasing number of large engineering and constructional contracts which England is undertaking in foreign countries once again.

During the past few years industry has of necessity adjusted its inflated structure of the early post-war and depression years—capital has cut its losses—bringing lower costs of production and the chance of entering export markets on a competitive basis.

A study of the situation during 1936 discloses the important fact that the beginning of the defence expenditure was not the spur which started the recovery, but that the armament program was superimposed upon an already well defined domestic revival, which became particularly marked during the second half of the year. More recently it is true, the domestic market has shared the benefit of this Government expenditure, the increasing purchasing power in the hands of the public has proved a boon to the retailer and a number of the depressed areas are being helped by the construction of new industrial centres and "shadow factories."

Unemployment is ceasing to be a seemingly unsolvable problem and over half a million workers were taken off relief registers during 1936. Activity in steel, shipbuilding and the heavy industries has made the outlook in the coal fields slightly more satisfactory and of this industry—an economic problem in itself—at least it may be said that the future is more hopeful.

Responsible commentary in England seems to be to the effect that the five-year defense program can be carried out without undue inflation and that at the same time, an industrial structure can be developed attuned to the normal economic conditions which will follow when government expenditure ceases.

Canadian Economic Situation.—The revival in Canada was not so clearly marked by an early improvement in the domestic market, indeed the reverse was more nearly true; that export demand did much to create the improved internal conditions. This is to be expected in a fairly sparsely populated Country dependent in large measure on overseas demand for her natural products such as agricultural produce—particularly wheat, metals and newsprint. Indeed it is the products of these three great industries which have been in the vanguard of the expansion in Canada's export trade, representing as they did in 1936, eighty-eight per cent of all exports.

Since the beginning of the year, the index of wholesale prices of Canadian farm products has been about five points higher than the general wholesale index. The farm index however reflects the increased wheat prices of the last four months, and as is true of other years, much of the grain may have been out of the hands of the actual growers early in the crop year. Thus the higher prices may not have been obtained by all producers. Whether wheat prices open high immediately after harvest and decline towards the end of the crop year, do exactly the reverse, or remain comparatively steady throughout, is a condition almost entirely dependent upon world demand at any particular time, though pressure to sell early in the crop year may depress the opening price.

Wheat prices fluctuated considerably during April. From the highest level in seven years of \$1.49$\frac{3}{4}$ on April 6th and with only a minor rally between, the price declined to \$1.27$\frac{5}{8}$ per bushel on April 26th. The price recovered slightly before the end of the month. The average price for No. 1 Manitoba Northern cash wheat at Fort William and Port Arthur was; April, 138·9 cents per bushel and March, 135·7 cents. The figure for April, 1936, was 80·5 cents per bushel.

Cattle markets were generally firm and export demand good. Average prices for April were generally higher than the preceeding month. Hogs were plentiful and the markets unsteady, but average prices were more favourable than those during March. Sales of calves, hogs and sheep all increased during the first 15 weeks of the present year compared with the similar period a year ago, the American market taking the bulk of the increase. Cattle sales declined by seven per cent for the same periods.

Railway freight movement for the first quarter of the year shows continued improvement. Despite a decrease of 9,145 cars in grain, the combined loadings for the first 13 weeks of the present year rose 12·3 per cent over the corresponding period of 1936. The trade of Canada for the fiscal year ended March 31st reached the highest figure since 1929-30 a gain of 22 per cent over 1936 and an advance of 84 per cent over the low figures of 1932-33.

The index of employment, after seasonal adjustment (1926=100), for April was 109·2 an increase over the index for March, but below the figures for the first two months of the year. To allow for the increase in population, this index must rise to about 120 before the level of employment in 1926 is reached. Employment in a number of industries has already expanded at a rate in excess of this requirement, but others, largely industries and services dependent upon demand from the primary producers and manufacturers of raw materials, still show a low employment index. It seems likely that this demand will develop with improved economic conditions and it should do much in decreasing the number of unemployed.

ADEQUACY OF SAMPLE IN FARM MANAGEMENT STUDIES

IAN MCARTHUR

One of the first and most important considerations in planning a farm management study is the question of the number of records necessary. Probably the final determination depends most on the purpose for which the study is being made. If it is expected that the data will be subjected to a variety of sub-sorts, it will be necessary to have sufficient records to provide adequate numbers for these groupings. This may increase the number of records necessary past the point where the sample would be adequate from the standpoint of simple averages representing the conditions of the area.

An interesting side-light on the adequacy of sample for purposes of determining types of farming, financial returns and costs of production, has been revealed in the analysis of data collected in connection with a farm management study conducted by the Economics Branch in the potato growing area of New Brunswick. During the summer of 1935 a total of 199 complete farm records were secured in the counties of Carleton and Victoria, New Brunswick. It was decided to repeat the study in part during the summer of 1936. Only a limited amount of time being available for field work, a total of 70 records were secured in the second year by means of a written questionnaire and personal visits.

In analysing the 70 records taken in 1936, comparative tables were set up for the same farms studied in 1935. These calculations provided averages for 70 of the farms included in the total of 199 records taken in 1935. A comparison was then made of the averages of these 70 farms records and the averages of the total 199 farms of which the 70 farms formed a part. This comparison was made simply to determine whether or not the averages obtained from the smaller sample of 70 farms would be approximately the same as the averages secured from the larger group of 199 farms. The averages in both cases pertain to the same year, that is 1934-35. In the complete study the farms were chosen at random throughout the area and the smaller group represents a random sample of the farms included in the original study. Farming practice in the area studied was uniform in that potatoes were the chief cash crop on all farms. However, minor differences in farm organization and farming methods did exist.

The utilization of land as shown by the 70 records for 1934-35 does not vary materially from the same calculations made from the larger sample of 199 records. It will be seen in Table 1 that there was a difference of only 0·7 acres in the two averages of total crop acres. Within the individual crops, the greatest difference was in the case of hay land which averaged 40·9 acres for the 199 farms and 39·3 acres for the 70 farms.

TABLE 1—AREA OF FIELD CROPS. AVERAGES OF SAMPLES OF 199 FARMS AND OF 70 FARMS 1934-35

Crop	Acres per farm		Percent of total acres	
	199 farms	70 farms	199 farms	70 farms
	(acres)	(acres)	(percent)	(percent)
Spring wheat	2·1	2·2	2·5	2·6
Barley	1·5	1·9	1·7	2·2
Oats	25·4	25·0	29·5	29·2
Buckwheat	2·6	1·5	3·0	1·8
Hay	39·3	40·9	45·6	47·8
Potatoes	13·8	16·0	16·0	15·3
Other	1·5	1·7	1·7	1·1
Total	86·2	85·5	100·0	100·0

In the case of numbers of live stock on farms, the averages for the two groups of farms show remarkable similarity. Horses and colts on the 199 farms averaged 3·5 head per farm, while the average when only 70 records were considered was 3·4 head per farm. Cows per farm averaged 5·0 in both cases. Numbers of other cattle averaged 6·8 per farm for the 199 farms and 6·7 per farm for the group of 70 farms.

TABLE 2—NUMBERS OF LIVE STOCK PER FARM, AVERAGES OF SAMPLES OF 199 FARMS AND OF 70 FARMS, 1934-35

—	199 farms average number of head	70 farms average number of head
Horses	3·5	3·4
Cows	5·0	5·0
Other cattle	6·8	6·7
Swine	4·7	4·9
Sheep	3·5	2·9

The variation was greatest in the case of sheep which might be explained by the fact that in only a few cases were sheep kept by farmers in this area. The higher the number of individual farms having the item, the closer was the comparison between such similar items in the two groups of records.

Results of the financial summary for the year studied also disclose the adequacy of a relatively small number of records. While there were some variations between the averages for the individual items of expenses and receipts, the relationship between the final determination of labour earnings of the two groups of farms was very close.

The labour supply and use on these farms was studied on the basis of productive-man-work-units. The number of work units required to produce the potato crop was determined from labour records secured from the farmers. Labour requirements for other crops, live stock and outside labour were calculated from a labour standard. The division of labour as between the various uses further bears out the observation that the larger sample did not materially affect the results.

TABLE 3—FINANCIAL SUMMARY, AVERAGES OF SAMPLES OF 199 FARMS AND FOR 70 FARMS, 1934-35

—	199 farms average per farm	70 farms average per farm
	$	$
Receipts—		
Cash receipts	875	821
Increase in capital	128	139
Total receipts	1,003	960
Expenses—		
Farm expenses	1,121	1,037
Capital expenditures	137	182
Decrease in capital	212	220
Unpaid labour	193	168
Total expenses	1,663	1,607
Income from capital and operator's labour	−660	−647
Interest on capital	377	382
Labour income	−1,037	−1,029
Value of farm produce	277	264
Credit for use of dwelling	143	151
Operator's earnings	−617	−614

TABLE 4—DIVISION OF LABOUR, AVERAGES OF SAMPLES OF 199 FARMS AND OF 70 FARMS, 1934-35

—	Productive-man-work-units		Percent of total labour	
	199 farms	70 farms	199 farms	70 farms
Potatoes	144·7	144·1	33·5	34·2
Other crops	143·8	141·5	33·3	33·6
Live stock	122·0	117·6	28·2	27·9
Outisde labour	21·7	18·0	5·0	4·3
Total	432·2	421·2	100·0	100·0

In connection with the cost of producing potatoes and the various items which go into making up the total costs, it is impossible to achieve absolute accuracy by the survey method. However, a high degree of accuracy can be attained and it is interesting to note that there was a difference of less than $2 per acre in the costs when calculated from the group of 70 farms and when the entire group of 199 farm records were averaged. The individual items show very little variation.

Table 5—Cost of Producing Potatoes per Acre, Averages of Sample of 199 Farms and of 70 Farms, 1934-35

—	199 farms	70 farms
	Average per farm	Average per farm
	$ cts.	$ cts.
Seed	7 00	6 89
Fertilizer	20 53	20 70
Spray and dust	2 35	2 43
Man labour	18 51	18 91
Horse labour	8 15	8 81
Tractor	0 35	0 45
Auto	0 91	0 94
Special equipment	5 16	5 36
General equipment	0 70	0 73
Interest	1 26	1 33
Land use	7 00	7 00
Building use	2 46	2 50
Fuel	0 20	0 22
Miscellaneous	1 78	1 87
Total	76 37	78 14

The similarity of the results attained by averaging these two groups of records, one a sample of the other, gives rise to the question as to whether or not it is necessary to go beyond say 100 records in making a study of an area where farming practices are reasonably uniform. As pointed out earlier in this article, the final decision as to the number of records required will of necessity be based on the degree of refinement one wishes in the analysis. However, if the object of the study is to determine farm organization and financial results of a particular area it would seem as if the number of records could be profitably limited to approximately 100 records. The labour involved in the tabulation of a large number of records tends to increase in more than arithmetic proportion, not only because of the greater amount of actual data to tabulate, but also because of the more frequent occurrence of errors and the added difficulty in finding and correcting such errors.

ECONOMIC SURVEY IN THE DROUGHT AREA[2]

A. Stewart[1]

During the past two years, the Dominion Agricultural Economics Branch, under the Prairie Farm Rehabilitation Act, has been carrying out investigations in certain areas in this province where acute problems are known to exist. The Branch has been assisted in this work by the provincial Department of Agriculture and the University of Alberta.

The first study covered the Vulcan-Lomond area and a report on this project is now in the process of completion. The area selected this year was that known as the Sounding Creek Area. Largely as a result of experience gained in the earlier investigation some change was made in the method and material collected this year. In the discussion that follows I shall have reference to the study in the Sounding Creek Area.

I suppose that most of us here to-day would have more or less similar ideas about what would be involved in a soil survey, a weed survey or a survey of live stock. Probably we would be less likely to agree on the essential characteristics of an economic survey. My purpose in presenting this paper is to outline the nature of the material which has been collected; to indicate how such studies may fit into the general attack on the problems which exist; and to suggest what contribution they may be expected to make towards the solution of these problems.

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[1] Lecturer in Political Economy, University of Alberta; acting in charge of the Land Utilization project in Alberta which is being conducted jointly by the Economics Branch and the University of Alberta.

[2] An address presented to the joint Conference of Representatives of the Dominion and Provincial Departments of Agriculture, Edmonton, 28, 29 and 30 December, 1936.

The problems of the distressed areas of this province are essentially problems in the use of resources. They can be stated generally in terms of vacant, abandoned and idle land; of disused and dilapidated buildings; of depleted inventories; and of discouraged and defeated people. This situation and the associated conditions of accumulated indebtedness, tax delinquency, relief and municipal bankruptcy, have arisen because, in general, producers in these areas have been unable to employ the resources at their disposal in such a way as to meet their commitments and provide for their own requirements and the needs of a stable or developing community. Primarily the predominant cause may be inadequate precipitation, but immediately, it is to be found not in rainfall, soil, water or other physical factors but in the inability of producers to derive an adequate return from their operations.

If the general problem can be stated in terms of returns, so also can a solution. Such a solution would provide, if possible, for the use of land, the investment of capital and the employment of labour in such a manner as to secure returns adequate for maintenance and stability. Viewed in this way, the immediate practical problem would appear to have two major aspects.

(1) That of determining whether, in the long run, the area in question can be expected to provide for these conditions, and, if so, under what form of organization.

(2) The problem of recognizing the nature and extent of the adjustments necessary to effect the new basis of organization.

I propose to deal with the second point first; that is, to discuss the relation of the work that has been done in the problem of making adjustments within the area. Assuming that some general plan of reorganization has been decided upon, a complete description of the area, along with an inventory of the resources in it, would seem to be an essential preliminary. The provision of this might be said to be the primary contribution of our investigation in the Sounding Creek Area.

At least one part of the work had been done previously. I refer to the soil survey carried out by the Department of Soils at the University of Alberta. The soil sheet prepared provides the necessary picture of the distribution of soil types within the area. When the work under way is completed the following additional information will be available:—

(1) *The Condition of the Land*

The field party, which conducted the survey this summer, made use of blank township maps on which was entered the use being made of the land in each of the 11,000 quarter-sections, i.e. the approximate area in crop, summerfallow, idle and pasture. For land in farms this was supplemented by the statements of the farmers themselves regarding the use of land on each quarter section of the farm unit. An attempt was made to classify the pasture into three categories:—

(*a*) Unbroken prairie,
(*b*) Land once broken but which is returning to pasture where the restoration is fairly complete,
(*c*) Land which is in the process of reverting to pasture but which is still in a definitely weedy condition.

With respect to the cultivated land in farms, some information was obtained regarding the prevalence of stones, and the extent and severity of soil drifting.

(2) *The Tenure of Land*

Through the use of the municipal assessment rolls information was obtained on the ownership of land in the area. This is available for each quarter-section and indicates whether title to the parcel was held by (*a*) a resident operator; (*b*) private individual resident in the area; (*c*) private individual living outside the area; (*d*) mortgage or land company; (*e*) Soldier Settlement Board; (*f*) municipality; or (*g*) the Crown.

Additional information will show whether the parcel was operated by the owner, being purchased under agreement of sale, rented, leased or vacant; and in each case the terms under which it was held.

(3) The number and location of resident farmers and the particular parcels included within the farm unit being operated.

(4) The location and condition of farm buildings. A record of the location of all buildings found in the area and a rough classification of these according to condition, was made. This classification distinguishes between good, fair and poor, occupied buildings; and for vacant buildings, those which are usable and unusable. In the case of farmsteads on occupied buildings a more detailed description was taken indicating the land owned and operated, and the buildings on it; the number of different classes of live stock; the value of machinery and equipment; and the value of other assets. The farmers themselves provided information on the extent of the indebtedness against their land, and of other liabilities excluding tax arrears and relief. Tax arrears against each quarter at the end of 1935 were extracted from the municipal assessment rolls and a statement of the outstanding direct relief against each farmer was obtained from the municipal officers. Similar information on supply relief was made available through the Department of Municipal Affairs.

(6) Other information obtained in the field covered such things as roads, schools, hospitals, churches, and the extent of the services available in the towns, villages and hamlets of the area. It is important, I think, to remember that the problems of the drought areas are not wholly the problems of farmers. Approximately twenty per cent of the people in the Sounding Creek do not live on farms, and not a little capital has been invested in the provision of services to the farming community.

Material of the kind that I have outlined and which is now available for the Sounding Creek Area provides a basis of knowledge of the conditions in the area which is, I suggest, indispensable in any considered approach to the solution of its problems. It gives not only a detailed description of particular parcels of land, and of the assets of individual farmers; it provides an inventory of the resources of the territory as a whole and indicates the local distribution of these resources within the area.

I turn now to consider the second aspect of the problem of rehabilitation, i.e. the determination of the form of organization of production in the area which may, in the future, prevent the recurrence of conditions similar to those of to-day. Again I wish to suggest how such a study as has been made in the Sounding Creek Area may be useful in this connection.

One profitable approach to the problem of reorganization is the analysis of the nature and relative significance of the causes of the existing situation. Such an analysis should help to classify the question of the form of organization which might be expected to remove or reduce the effects of these causes.

There are three groups of factors which influence the returns obtained from agricultural production in any area. These are (*a*) physical factors; (*b*) price factors; (*c*) the organization of production. Failure to achieve adequate returns may be due to an inadequate physical basis for production; unfavourable cost and price relations; inability to make the necessary adjustments to the physical conditions or the price situation.

(1) That adverse physical factors have been one of the important causes of problem conditions needs no emphasis. This area, part of a larger territory, has suffered from a succession of phenomenally dry years, such as to make profitable production of field crops difficult, if not impossible, under any conceivable set of price conditions, or under any form of organization of cropland farming.

In determining the full significance of this for the future it is necessary to know how representative this period has been and the probability of the recurrence of similar extended drought periods in the future, i.e. the long run physical potentialities of the area and the extent and severity of the variations that may be anticipitated. We should also know the potentialities of the area for forms of production other than grain growing.

Unfortunately the material on yields that is available even now is meagre in quantity; of questionable reliability; probably unrepresentative; and definitely inadequate for a thorough analysis of the past performance of the area and any satisfactory prediction of its future potentialities. Part of the trouble lies in the failure to preserve adequate records of the yields of grains over the period of settlement. As it is, it is not possible to make any satisfactory analysis of the average level of yields; the extent of variations from year to year; the frequency and association of years with yields above and below normal; or the local variations in yields.

An attempt was made during our survey to obtain from farmers, who had been in the area for an extended period, a statement of the yields obtained by them from year to year. A large number of these statements were taken, and while such information, except when drawn from actual records, is doubtless subject to error, along with the scattered official records, it will be of some assistance in interpreting past performance, and predicting future physical potentialities.

(2) The second group of factors affecting the profitability of production includes the prices the producer must pay for the things he uses and the prices he receives for his produce. It is important, I think, in considering the problems of the Drought Areas, that we do not allow ourselves to be so impressed by the physical conditions that we overlook the significance of costs and prices either as causes of the present situation, or as determinants of future profitability. Again, it is unnecessary to labour the fact that price conditions during the past few years have been such as to make it difficult, if not impossible, to produce profitably even with the most favourable physical environment, and in any line of production.

The effects of falling prices to the farmer are accentuated by the rigidities of the prices of many of the things that he uses in production. Payments for land; interest on all forms of indebtedness, taxes; the prices of machinery, equipment and supplies, tend to be reduced more slowly or less, than prices of farm produce.

It is important to consider what difference it would have made to farmers in the Sounding Creek Area if during the past six years they had received, say, a dollar a bushel for wheat at the farm. It is equally important in anticipating future use of the land to consider the prices that may be received in the future for all alternative products; and the significant effects that might follow the liquidation or reduction of all forms of indebtedness and fixed payments, including the price of land.

One approach is to study the evidence of the history of the area, and of individual producers within it. In our study we are trying to bring together all the available historical material so that it may be possible to present something of a cross section of conditions in the Sounding Creek Area at other times when the price and cost relations were different, and perhaps more normal, then they have been recently. Much of the information obtained in the field from individual farmers will be valuable in this respect, e.g. the period of acquiring land, prices paid and the extent of the obligations assumed in connection with land purchase; capital with which the settler started; the process of extending the size of the holding, the periods at which this took place and the commitments entered into a result of the acquisition of additional land. These are factors which undoubtedly have been significant in influencing the progress of individuals. These and similar factors are relevent to the problem of reorganization and will remain important in determining future returns under any form of organization.

(3) The third group of factors includes those relating to the organization of the productive unit—the choice and combination of enterprises; the size of holding; the intensity of cultivation; the selection of strains of crop and stock; and the adoption of suitable practices, etc. This is the problem of management and of adjustment to the physical and price factors. The profitability of production depends upon the extent to which producers can, and do, make the adjustments prescribed by these conditions which remain outside their control.

In this year's study less attention was given, than in the Vulcan-Lomond investigation, to farm management data but enough has been gathered to indicate the predominant types of farm organization and to make some analysis of the relative success of these.

So far I have referred largely to the area as a unit but generalizations about drought areas or any extensive territory within it are unlikely to be of much positive value from the practical point of view—they may even be dangerous. In an area covering approximately 3,000 square miles uniformity is unlikely to be found. It is true that price factors are not likely to vary locally to any appreciable extent but physical conditions may, prescribing different forms of organization in different localities. It is part of our purpose to attempt to define areas in the Sounding Creek territory within which conditions tend to uniformity but between which the differences are sufficiently pronounced to suggest that different forms of organization may be appropriate. Thus the differences exposed may suggest that it would be advisable to take some sections of the area permanently out of cultivation; other sections may appear suited to various sizes of farm unit, practices, and combinations of crops and live stock. I believe that this study will be useful in clarifying the nature of local differences and the significance of these to the problem of reorganization.

There may be those, I doubt if there are any such here, who believe that there is some simple way to provide a permanent solution for the problems of the fringe areas of this province. It is not uncommon to find people—I think generally people without any great measure of responsibility—who claim that for problems of this kind just such a solution can be found. I confess I cannot share that optimistic view, and I believe that those who are most closely in touch with the situation, and are therefore most fully aware of its complexities, are likely to agree that the problem to be faced is an appallingly difficult one. Measured against it our knowledge appears woefully inadequate; our technique the crudest of instruments. We have to deal with a number of forces all of which are variable, although in differing degree. The soil of an area may be a relatively constant factor; its climate, over a long period, may be subject to little change—but not so the other complex forces which make for the profitability of enterprise and the contentment of people.

There is no way by which we can tell what form of organization will be prescribed by the conditions prevailing a generation from to-day. And yet, unless we are to be satisfied by mere temporary expedients, that is the issue that has to be faced. We will have to use our best judgment, as others have in the past. A vigorous attack upon the problem is being made from all sides, by administrators and research workers. Out of this we may look for an appreciable extension of our understanding of the forces to be contended with, and we may hope that in consequence our judgment will be more sound. In assisting to expand our knowledge, I am confident that the economic surveys can take their place as a valuable contribution in this direction.

FARMERS' BUSINESS ORGANIZATIONS IN CANADA, 1935-36

A. E. Richards and W. F. Chown

Farmers' co-operative business organizations occupy an important position in the marketing of Canadian agricultural products. The financial position and volume of business are summarized in the accompanying tables. It may be pointed out that the financial year for many co-operatives does not end with the calendar year. The marketing of fruit and grain, for example, extends for several months into the succeeding year and while the statistics apply to the 1935 crop, the financial statement and annual reports with respect to such marketings were not available until the latter part of 1936.

During 1936, the Agricultural Economics Branch received returns from 781 farmers' business organizations which were active in 1935. This was an increase of 84 over the previous year. Returns for Nova Scotia, Quebec, Ontario and Saskatchewan were received chiefly through provincial officials. In the other provinces, questionnaires were mailed direct from Ottawa. The majority of the organizations included have been incorporated under provincial co-operative acts.

The 781 organizations have 2,485 branches which combined make a total of 3,266 places of business engaged in the marketing of farm products and the purchase of supplies for farmers. Shareholders and members financially interested numbered 366,885 and patrons were estimated to number 406,321. These organizations range in size from the small club serving local needs to the large association with a Dominion-wide field of activity.

Total assets after deducting provision for bad debts and depreciation amounted to $85,751,901 of which the book value of plant and equipment was $35,289,468. The members' equity amounted to $51,086,691 consisting of paid-up share capital $8,954,135 and reserves and surplus of $42,132,556. This was an increase of $1,209,797 in net worth over 1934. From 1934 to 1935 co-operatives decreased their general liabilities by $20,641,459 or 37 per cent. In other words, the co-operatives paid off over twenty millions of debts during the year. This was possible because of the liquidation of inventories, chiefly grain, and the reduction of accounts receivable due to improved economic conditions. Assets other than plant, mainly current assets, were reduced from $66,333,077 to $50,462,433 or by 24 per cent. As a result of these changes in capital structure, the general financial standing of co-operatives reporting has been considerably strengthened.

Sales of farm products amounted to $144,962,609, sales of supplies $12,788,192 and other revenue $414,764 or a total business of $158,165,565. The total volume of business increased by $28,000,000 mainly due to improvement in prices for farm products.

Marketing.—Available records indicate that the most important early activity of farmers in the field of co-operation in Canada was directed toward the marketing of farm products. In comparing the volume of business, marketing associations transact twenty times the business handled by purchasing agencies. Membership in the co-operative marketing associations is given as 335,651 persons compared with 30,012 members in purchasing organizations.

Within the marketing group the grain and seed co-operatives which include the wheat pools of Western Canada have the largest membership and investment, and exceed all other commodity groups in volume of business, which is estimated at $99,612,837 for the year under review. A membership of 191,635 grain growers contributed to this business through 2,128 co-operative marketing agencies. Mainly through deductions from the selling price of their grain, these members have invested a sum of $37,836,404 in their business and in addition have paid up $3,420,345 in share capital. Combined assets total $67,727,047.

One hundred and thirty-six dairy co-operatives with 142 depots in Canada reported a membership of 33,211 with assets valued at $4,478,737. Paid-up share capital amounts to $1,899,715 with reserves of $868,400. Sales of dairy products totalled $11,631,338 for the year under review.

The records for 59 live stock shipping and marketing associations show a combined membership of 35,544. Financing of these associations is mainly by membership fees and commissions. Assets are comparatively low with value of plant and equipment amounting to $796,632. This accommodated a business of $8,264,035. The live stock co-operatives undertake very little processing of their product. Their main activity is the assembling of live stock in cars at producing points for shipment to central markets.

A large part of the fruit and vegetable crop is marketed through 107 co-operative agencies with a combined membership of 10,210 fruit growers. Assets for all companies total $3,926,958; reserves and surplus amount to $754.301. Sales of fruits and vegetables during the year amounted to $7,424,400 which, together with supplies and other revenue, gave a total business of $8,975,171.

Poultry producers have organized in each of the provinces to sell their products co-operatively. There were 31 associations with 254 places of business which reported a membership of 34,458 members. Assets amount to $445,293 with reserves of $198,644. Sales for the year amounted to $2,161,647.

Practically all the wool marketed co-operatively in Canada is handled by the Canadian Co-operative Wool Growers Limited. The company operates in each province through the medium of 18 sheep-breeders' and wool-growers' associations. The co-operative stores grade and market the wool received from its 8,000 patrons. In addition, it carries on advertising and educational work and handles materials and supplies for its members. The quantity of wool handled by the co-operative during the year amounted to 4,500,000 pounds.

In Ontario and Quebec, the honey producers are organized co-operatively with a combined membership of approximately 1,800 members. Two tobacco co-operatives in Ontario, and three in the province of Quebec report a total membership of 953 and sales of approximately a half million dollars for 1935. The Producteurs de Sucre et Sirop d'Erable de Québec, with a membership of 1,982, is organized on a co-operative basis. During the year under review the sales value of maple products marketed by this association amounted to $452.948.

For years the Canadian National Silver Fox Breeders' Association has been engaged in the inspection of silver foxes for registration and the marketing of silver fox pelts in all the provinces of Canada. Sales of silver fox and other furs by this Company amounted to one and one-quarter million dollars in 1934. Operating within the province of Nova Scotia, the Nova Scotia Silver Fox Breeders Association grades, warehouses and markets fox pelts for its members in addition to carrying on valuable educational and field service work. Sales for the year under review amounted to approximately a quarter million dollars.

Purchasing.—Three hundred and seventy-eight associations organized for the purpose of purchasing farm supplies and merchandise on the co-operative plan reported their activities during 1936. These consumer associations, of which nearly one-half are established in the province of Saskatchewan, have a combined membership of 30,012. The sales value of supplies handled during the year, by associations organized exclusively for the handling of supplies, amounted to $7,808,067. In five of the provinces co-operative wholesale buying societies purchase goods for their shareholder associations.

Within the miscellaneous group is included the Consumers' Refineries Co-operative Association Limited, Regina, Saskatchewan, which was incorporated in 1935 for the purpose of manufacturing petroleum products and selling them on a wholesale basis to local co-operative organizations throughout Saskatchewan. The co-operative completed its first year of operation successfully with sales amounting to approximately one-quarter million dollars.

For further information see accompanying tables.

FARMERS' BUSINESS ORGANIZATIONS IN CANADA, 1935-36. PROVINCIAL GROUPING.

Province or Function	Associations	Places of business	Shareholders	Patrons	Total assets	Value of plant	General liabilities	Paid-up share capital	Reserves and surplus	Sales of farm products	Sales of supplies	Total business including other revenue
	No.	No.	No.	No.	$	$	$	$	$	$	$	$
Prince Edward Island.	12	63	10,301	10,579	108,800	40,729	100,063	14,020	−5,283	1,056,775	132,032	1,190,405
Nova Scotia..........	53	85	5,891	9,517	1,553,269	642.164	854,923	419,467	278,879	1,853,959	1,013,767	2,900,288
New Brunswick.......	23	63	3,880	8,890	378,516	121,403	247,855	93,765	36,896	669,827	337.828	1.009,200
Quebec...............	153	153	14,358	14,358	4,591,702	2,084,912	2,880,402	743,842	967.458	11,883,435	190,597	12,199,890
Ontario..............	126	145	34,992	44,952	3,229,048	1,252,206	1,447,951	1,182,533	598,564	12,921,893	2,671,536	15,734,619
Manitoba.............	45	342	41,977	53,566	3,650,833	1,963,934	2,962,949	301,664	386,220	7,700,592	785,834	8,511,239
Saskatchewan.........	238	1,313	149,734	140.002	39,282,981	15,533 084	12,943,900	792,430	25,546,651	49,659,557	2,754,208	52,426,772
Alberta..............	47	548	61,293	66.823	18,407,275	6,043.077	7,200,048	313,912	10,893,315	32,305,597	1,510,693	33,829,730
British Columbia.....	78	86	13,783	17,701	4,153,668	1,426,890	1,430,611	1,796,713	926,344	8,145,334	1,539,703	9.740,640
Interprovincial.......	6	468	30,676	39,933	10,395,809	6,181,069	4,596,508	3,295,789	2,503,512	18,765,640	1,851,994	20,622,782
Totals, Canada...	781	3,266	366,885	406,321	85,751,901	35,289,468	34,665,210	8,954,135	42,132,556	144,962,609	12,788,192	158,165,565

FARMERS' BUSINESS ORGANIZATIONS IN CANADA, 1935-36. COMMODITY GROUPING.

Marketing—												
Dairy products.......	136	142	33,211	52,244	4,478,737	2,184,045	1,710,622	1,899,715	868,400	11,631,338	283,984	12,039,618
Fruits and vegetables	107	108	10,210	14,418	3,926,958	1,711,432	2,201,528	971,129	754,301	7,424,400	1,454.960	8,975,171
Grain and seed......	30	2,128	191,635	190,862	67,727,047	28.412,071	26,470,298	3,420,345	37,836,404	97,692,843	1,905,385	99.612,837
Live stock..........	59	142	35,544	45,461	796,632	328,164	296.425	393,227	106,980	7,839,686	372,426	8,264,035
Poultry.............	31	254	34,458	18,947	445,293	96,913	181,291	65,358	198,644	2,098.441	49,640	2,161,647
Honey...............	2	2	1,828	576	157,140	5,668	114,612	35,461	7,067	211,290	806	212,096
Maple sugar.........	1	1	1,982	1,982	340,683	240,762	157,585	57,082	126,015	452,948	....	452,948
Tobacco.............	5	5	953	565	422,494	113,969	61,454	78,755	282,285	424,919	....	425,059
Wool................	1	19	2,104	8,000	323,879	75,275	48,057	116,240	159,582	758,370	60,419	818,789
Fur.................	2	2	930	4,418	30,274	5,347	940	....	29,334	1,454,118	7,442	1,462,761
Miscellaneous.......	6	17	22,796	22,796	3,456,459	1,146,415	2,497,215	632,714	326,530	14,404,174	589,973	15,061,516
Totals, Marketing.	380	2,820	335,651	360,269	82,105,596	34,320,061	33,740,027	7,670,026	40,695,543	144,392,527	4,725,035	149,486,477
Purchasing...........	378	423	30,012	44,830	3,517,657	893,273	889 795	1,224,210	1,403,652	569,374	7,808,067	8,420,153
Miscellaneous........	23	23	1,222	1,222	128,648	76,134	35,388	59,899	33,361	708	255.090	258,935
Totals, Canada...	781	3,266	366,885	406,321	85,751,901	35,289,468	34,665,210	8,954,135	42,132,556	144,962,609	12,788,192	158,165,565

ECONOMIC LITERATURE

PROCEEDINGS of the Fourth International Conference of Agricultural Economists. St. Andrews, Scotland, 1936. Oxford University Press, Humphrey Milford, 1937. 523 pages and index.

The fourth International Conference of Agricultural Economists was held at St. Andrews, Scotland, from August 31st to September 6th, 1936. The Conference which held its first meeting in 1929, has as its objective "the fostering of the development of the science of Agricultural Economics and of furthering the application of the results of economic investigations of agricultural processes and agricultural organization in the improvement of economic and social conditions relating to agriculture and rural life."

In outlining the program for the 4th conference the President, Mr. L. K. Elmhirst, reviewed briefly programs of previous conferences. While the first concerned itself largely with sharing for the first time experiences as to methods of research and the second and third were concerned primarily with the depression, its causes and the way out, it was felt that the present situation demanded a more fundamental approach to the problems of agriculture, "the place of agriculture in the future of civilization, in a world at peace."

These problems were discussed under five headings; the relation of agriculture to the rest of the community, land tenure, the industrial organization of farming, the provision of credit in agriculture, and the problems of consumption of agricultural produce. In addition a certain amount of time was devoted to more specialized subjects.

In the discussion of the Relation of Agriculture to Industry and the Community two distinct points of view were expressed. The classical concept was championed by Prof. W. R. Scott of the University of Glasgow who, in referring to the unfavourable exchange relationships between the products of agriculture and industry which had existed for a period of years, and the growing tendency to surround agriculture by a myriad of protective devices, urged that this situation was only temporary and that the production of a nation should not be considered a closed economy but as an integral part of a world economy. The feeling that the changed relationship between agriculture and industry was a permanent one, under which the adverse exchange relationship of agricultural produce must be counteracted by state action which favoured agriculture at the expense of industry was expressed by R. R. Enfield of the ministry of agriculture and reiterated by Josef Knespl of Czechoslovakia and Baron Bela Malcomes of Hungary.

In the opening paper on land tenure and the development of agriculture Professor Sering of the University of Berlin presented a historical review of land tenure in Germany and Eastern European countries, pointing out the danger that lack of credit may cause a breakdown of the owner-operated farms which has long been the prevailing system in Germany and adjoining countries. In the second paper, Professor Ashby of University College of Wales followed his discussion of the subject of land tenure in relation to agriculture with an interesting description of the British systems of tenure, indicating the close relationship between systems of land tenure and the system of government. In Great Britain a close connexion still exists between tenure of agricultural land, the continuation of an hereditary peerage and its continued enjoyment of special privileges and powers. While pointing out certain problems connected with the nationalization of land Professor Ashby concludes that public ownership would be the best form of tenure for Great Britain. A discussion of trends in land tenure in Canada was presented by Dr. Lattimer of Macdonald College; while Professor Hibbard of the University of Wisconsin dealt with the situation in the United States.

The session on farm organization consisted of three opening papers followed by discussion. The first paper by A. Bridges of the Agricultural

Economics Research Institute at Oxford, dealt with the organization of the farm, for the use of land labour and capital. On the basis of his analysis Mr. Bridges concludes that the organization of agriculture on a joint-stock basis would allow for larger units, more efficient use of labour, lower cost of production and a higher return to the farm worker. Professor Zörner of the University of Berlin in the second paper compares the large farm operating with hired labour with the family farm from the standpoint of (1) the physical and economic conditions of production, (2) the way in which the demands of the national economy upon agriculture are met, (3) rural population. The net advantage is claimed by Professor Zörner to be with the family farm. In the third paper on farm organization H. B. Tolley, Administrator of the Agricultural Adjustment Administration, Washington, D.C., deals with the technical, economic social and governmental developments in the United States as they are related to the organization and operation of farming systems. Those developments which he considers most significant are: (1) The trend towards mechanization of the processes of agricultural production; (2) the effort to adjust agricultural surplus to the changing demand situation which grew out of the World War, the expansion of production in competing areas and the rise of nationalism; (3) the increasing interest in soil conservation as a means of maintaining fertility and of preserving or increasing the producing capacity of the nation; (4) the use of the centralizing powers of government by farmers in the development of national agricultural adjustment programs. Other formal papers dealing with farm organization included one on "Corporation Farming in Canada" by J. Coke, Assistant Commissioner, Economics Branch, Department of Agriculture, Ottawa, and on "The Organization of Farming in Czechoslovakia" by F. Bucek, Institute of Farm Management and Accounting, Prague.

The provision of agricultural credit in the United States was discussed by F. F. Hill, Deputy-Governor of the Farm Credit Administration; E. H. Thomson, President of the Federal Land Bank of Springfield; and A. L. Deering, Dean of the Maine College of Agriculture, each of whom dealt with certain phases of the United States Farm Credit System and some of the problems encountered. The "Experience of Debt Adjustment in Czechoslovakia" was discussed in a paper by Edward Patka of the Institute of Accounting and Farm Management, Prague, Czechoslovakia.

Problems of consumption of agricultural products were dealt with by E. P. Cathcart, Professor of Physiology, University of Glasgow, who treated the problems from the nutritional or physiological standpoint, and by R. B. Forrester, University College of Wales, who attacked the problem from the economic point of view. Those taking part in the discussion included F. L. MacDougal, Australia House, London; E. H. M. Lloyd, Market Supply Committee, London; F. Von Bulow, International Labour Office, Geneva; Hazel K. Stiebeling, Bureau of Home Economics, Washington, D.C.; M. K. Bennett, Food Research Institute, Stanford University, California; and S. Schmidt, University of Cracow, Poland. The general feeling expressed in the discussion was of the need for increased consumption both from the standpoint of solving the agricultural marketing problem and from the sociological point of view. Means considered for bringing this about included: (1) increased real purchasing power for the masses; (2) decreased costs; (3) social measures.

Among the other topics discussed at the Conference of particular interest to Canadians was that of "Commercial Policy and the Outlook for International Trade in Agricultural Products," upon which an interesting paper was presented by Andrew Cairns, Wheat Advisory Committee, London. Other sessions included papers and discussion on "Problems of Milk Marketing Regulation," "Part-Time Holdings for Urban Workers," and "The Operation of the Natural Products Marketing Act in British Columbia."

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The
ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
OTTAWA

Vol. VII, No. 4 | Published by Authority of the Hon. James G. Gardiner
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THE ECONOMIC SITUATION

Although the index of the physical volume of business in Canada declined during May, the output in many industries continued on relatively high levels and compared with the corresponding month of 1936 the index shows a gain of 13 per cent.

The Dominion Bureau of Statistics wholesale commodity price index (1926=100) declined during the first two weeks of June but moved up during the latter part of the month. The monthly index was 84·6 compared with 85·1 in May. The index of Canadian farm products declined by about four points, due to lower grain and live stock prices, and the monthly index was 83·7. During the last week of the month however there was a decided price recovery, lead by wheat and the weekly index of Canadian farm products on July 2nd was 90·4.

During the second week of May a serious drought situation threatened in the Prairie Provinces and between the 13th and 19th of the month wheat prices advanced more than 10 cents a bushel. Rain and favourable growing temperatures prevailed for the remainder of the month and caused a price decline of nearly 15 cents. The average price during May for No. 1 Manitoba Northern cash wheat at Fort William and Port Arthur was 130·6 cents a bushel, compared with 76·8 cents a bushel in May, 1936. The official crop report at 30th June, 1937, issued by the Dominion Bureau of Statistics showed that drought had taken a heavy toll of the wheat crop in Saskatchewan and Alberta during the month. In Saskatchewan the condition figure declined 44 points during June to the lowest figure on record, 34 per cent of the long-time average and in Alberta the condition figure at 30th June was 63 per cent of the long-time average. The figure for Manitoba was two points above the long-time average at the end of June, while for Canada as a whole it was estimated to be 51 per cent of average. The average price for cash wheat during June was 124·2 cents and the opening figure for July, $1.45½ a bushel. The price remained comparatively high throughout the first two weeks of the month and in face of continued adverse weather conditions in the Prairie Provinces and a much reduced crop estimate, cash wheat was quoted on 17th July at $1.55 per bushel.

Live stock prices were firm during June but in the last week were somewhat depressed at Winnipeg by increased runs of poorly finished grades. Calves were easier and hog prices advanced on cables from the United Kingdom indicating higher bacon prices.

A decline in the fuel index and a slight recession in the price of food brought the retail price index down fractionally from 82·8 in May to 82·6 in June. Meats showed moderate advances while most other foods recorded slight decreases.

Employment showed marked improvement during May and on June 1st, 1937, the seasonally adjusted index was 112·6 compared with 109·4 on the

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

Year	Wholesale Prices 1926=100				Retail prices and cost of services (5)	Production (6) 1926=100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·4	57·1	73·9	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·7	112·3	114·4	82·7	141·3
1936									
June....	72·3	64·5	60·8	70·7	80·0	111·1	113·0	45·1	155·0
July....	74·4	66·3	63·2	71·6	80·4	110·8	112·0	77·5	134·2
Aug....	76·2	73·3	74·1	71·9	81·0	113·5	115·8	117·6	132·8
Sept....	76·4	74·4	74·2	74·7	81·1	120·0	123·9	116·6	136·7
Oct....	77·1	76·3	76·4	76·2	81·1	121·5	125·5	90·3	145·9
Nov...	77·2	77·1	75·6	79·5	81·4	118·5	121·7	72·7	158·3
Dec....	79·7	82·4	83·4	80·8	81·7	118·4	121·1	51·0	153·5
1937									
Jan.....	81·3	86·0	88·3	82·1	81·6	116·9	119·4	42·0	162·5
Feb....	82·9	87·0	89·6	82·6	81·7	115·0	117·7	31·4	170·0
Mar....	85·5	90·0	93·4	84·2	82·0	118·7	122·4	37·3	178·6
April...	86·1	91·4	94·4	86·3	82·2	124·0	128·8	62·3	174·3
May....	85·1	87·8	89·0	85·7	82·8	122·0	126·1	53·1	189·3
June....	84·6	83·7	85·1	81·4	82·6	126·0	130·6	29·3	174·1

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1935, p. 17.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1935, p. 53, and Monthly Mimeographs 1936 and 1937.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.

Prices and Price Indexes 1913-1935, p. 117, and Monthly Mimeographs, 1936-1937.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

Yearly index numbers for 1936, subject to revision.

Production indexes for 1936 were revised due to changes in the seasonals to reflect the influence of recent years. Other alterations were the addition of the output of creamery butter and the substitution of the production of factory cheese for cheese exports.

first day of the previous month (1926=100). The improvement was shared by all provinces and embraced almost all industries. The expansion in construction was particularly marked and exceeded that indicated at June 1st in any year on record. Tabulation of the returns made to the Dominion Bureau of Statistics by 58 city authorities throughout Canada show that permits for construction work were granted during April to the value of over six million dollars compared with three and a quarter million dollars in April, 1936.

External trade continues to show expansion, exports for the twelve months ending April, 1937, amounting to $1,069 million and imports $686·5 million. Exports for the month of April were $65·5 million, a gain of 14·1 per cent over the similar month of 1936 and imports totalled $56·9 million, a gain of 34·8 per cent.

Retail trade showed increased activity during May and the dollar value of retail sales was 8·4 per cent above May, 1936. The adjusted index for May was 78·9 (1930=100) compared with a low of 67·6 in the same month in 1933 and a high of 108·8 for May, 1929.

The Situation in the United Kingdom.—The wholesale price index (1930=100) rose from 108·9 in April to 110·7 in May. The figure for May, 1936, was 91·9. The cost of living index of the Ministry of Labour at June 1st and May 1st was 152 (July, 1914=100) an increase of 0·7 per cent over the April figure and 8 points higher than June, 1936. Employment in April improved, and it was estimated that over ninety per cent of those insured against unemployment were working. The index number of prices of agricultural produce (1911-13=100, adjusted for wheat and cattle payments) which, reflecting the higher prices of grains, milk and wool reached 143 in April, declined to 134 in June. Milk prices were unchanged and eggs slightly higher but most of the other commodities included in the index figure showed price declines.

CANADIAN SOCIETY OF AGRICULTURAL ECONOMISTS NINTH ANNUAL MEETING

The Ninth Annual Meeting of the Canadian Society of Agricultural Economists was held at the University of Saskatchewan, Saskatoon, on June 28, 29, and 30, 1937.

Papers read during the opening day were devoted to the consumption and demand aspect of agricultural economics. Dr. W. C. Hopper, Ottawa, contributed a paper on "Studies of Consumption of Agricultural Products" and Professor V. C. Fowke of the University of Saskatchewan, confirmed the value of such studies in his address "The Utilization of Consumption Studies by Agricultural Co-operatives." The importance of demand in the determination of agricultural prices was discussed by Mr. H. G. L. Strange of Searle Grain Company while Dr. J. E. Lattimer, Macdonald College contributed a paper on "The Elasticity of Demand for Farm Products."

The second day of the meeting was devoted largely to problems of immigration. The general considerations were discussed by Dr. C. A. Dawson of McGill University and Dr. W. W. Swanson of the University of Saskatchewan approached the subject from its effect upon the Prairie Provinces. Dr. O. B. Jessness, University of Minnesota, President of the American Farm Economic Association, presented a paper on " The Place of Research in the Determination of Agricultural Policies." An address by Dr. W. Allen of the University of Saskatchewan, " A Program of Research in Land Economics," concluded the second day's session and served as an introduction to the papers read the following day on land utilization and settlement both in Canada and the United States.

Mr. Edward G. Grest, Rural Resettlement Administration, discussed the resettlement program in the Lake State Region of Michigan, Wisconsin and Minnesota. Dr. C. C. Spence, University of Saskatchewan, read a paper "The Development of Technique in Land Utilization Studies" and Mr. J. Proskie, University of Alberta discussed "The Application of Research in Land Utilization." The paper of Mr. Wilmer J. Hansen, Economics Branch, Ottawa, dealt with the economic aspects of crop insurance, particularly in the Province of Saskatchewan.

BUTTER MANUFACTURING COSTS IN COUNTRY AND CITY PLANTS[1]

C. V. Parker

When creameries were classified according to volume of butter manufactured, it was found that as output increased manufacturing costs per unit declined. The average cost to manufacture a pound of butter was 3·45 cents and the average volume of output for the 78 plants in the study was 350,500 pounds. Cost of manufacturing decreased from 4·82 cents per pound butter to 3·18 cents as volume of production rose from below 100,000 pounds to over 500,000 pounds.[2] Considerable variation in costs, however, occurred between creameries in the same size groups, and in order to explain this difference a classification of creameries according to place of operation has been made.

The fact that creameries are situated in villages or cities has no particular significance in itself. What is important is the higher costs encountered in large centres particularly for the use of land. The terms city, town, and village are used for descriptive purposes. Regulations concerning the incorporation of centres in Western Canada vary, so, for purposes of this study the terms city, town, and village creameries are defined as follows:—

Table 1—Cost Per Pound of Butter Manufacture in Creameries Classified According to Place of Operation, Prairie Provinces, 1933

Items of cost	Creameries situated in			All creameries
	Cities	Towns	Villages	
	cents	cents	cents	cents
Plant wages	·80	·92	·93	·91
Materials and miscellaneous—				
Boxes and liners	·34	·45	·45	·43
Supplies	·21	·20	·19	·20
Power and fuel	·40	·31	·26	·30
Repairs	·13	·11	·14	·13
Grading cream	·10	·11	·14	·12
Sundry	·07	·06	·08	·07
	1·25	1·24	1·25	1·25
Overhead—				
Taxes	·12	·08	·04	·06
Insurance	·09	·06	·07	·07
Depreciation	·28	·25	·24	·25
Interest	·35	·21	·18	·22
	·84	·60	·53	·60
Administration—				
Salaries	·58	·21	·21	·27
Office supplies	·07	·06	·06	·06
Postage and phone	·22	·13	·11	·13
Travelling	·05	·03	·02	·03
Head office	·08	·16	·10	·12
Sundry	·20	·05	·06	·08
	1·20	·64	·56	·69
Total cost	4·09	3·40	3·28	3·45
Number of creameries ... No.	8	25	45	78
Average pounds of butter ... lbs.	527,501	404,775	288,879	350,500

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[1] A survey of costs of creamery operation was undertaken in the fall of 1934 in the Three Prairie Provinces. The study was conducted by the following co-operating agencies—the Dairy Branches of the Departments of Agriculture in the Three Prairie Provinces, the Rural Economics Divisions of the Universities in the Provinces and the Dairy and Economics Branches of the Dominion Department of Agriculture.

[2] "The Economic Annalist" Vol. V No. 3, September, 1935.

City Creameries are those situated in Winnipeg, Edmonton, Calgary, Regina and Saskatoon.

Town Creameries are those situated for the most part in centres ranging in population from 1,000 to 2,500. This class also contains four creameries in places with population from 5,000 to 10,000 persons.

Village Creameries are those situated in centres having less than 1,000 persons.

Data in Table 1 indicate that it costs more to manufacture butter in city plants than those in towns and villages, despite the fact that volume of production is greater in the former. In eight city plants which had an average production of 527,501 pounds of butter, the cost of manufacture was 4·09 cents per pound in comparison to 3·40 cents in creameries situated in towns and 3·28 cents in village creameries. Overhead and administrative expenses on a unit cost basis were lower in country plants, material and miscellaneous items were practically the same while plant wages were somewhat higher than in city plants. City creameries had higher capital costs and greater expense for office administration.

A further analysis was made comparing a number of village and town creameries having approximately the same average output as had the 8 city plants. The results of this comparison as shown in Table 2 indicated that in plants of approximately the same size, manufacturing costs in cities were 4·09 cents per pound, in towns 3·20 cents and in villages 3·10 cents per pound. There was nearly one cent difference in unit costs between the city and village plants.

TABLE 2—COMPARISON OF MANUFACTURING COST PER POUND BUTTER IN COUNTRY AND CITY PLANTS HAVING APPROXIMATELY THE SAME VOLUME OF OUTPUT, PRAIRIE PROVINCES, 1933

—	Creameries situated in			Total
	City	Town	Village	
Cost of manufacturing.....cents	4·09	3·20	3·10	3·37
Number of creameries.....No.	8	14	12	34
Average pounds of butter.....lbs.	527,501	525,478	527,883	526,803

Capital investment was much higher in city plants. The average investment was as follows: city creameries, $34,258; town creameries, $13,926; and village creameries, $8,634. The investment per pound butter produced was 5·61 cents for city creameries, 3·44 cents for town creameries, and 2·94 cents for village creameries.

Cream Transportation Costs.—The cash cost of gathering cream was considerably higher for city plants than for those situated in town and village. Cream trucking costs averaged 2·50 cents per pound butterfat for city plants, while rail express averaged 2·34 cents per pound. The average costs in town plants were 1·90 cents and 1·55 cents respectively, and for village factories 2·34 cents and 1·55 cents. The total gathering charge per pound of butterfat used was 2·31 cents for city creameries, 1·15 cents for town creameries, and 1·23 cents for village creameries. One factor influencing cost of cream transportation to larger centres is the longer distance to be travelled to obtain the cream. The dairy farmers situated in close proximity to large centres for the most part send their supplies to the fluid milk market. City plants therefore must necessarily go beyond the fluid milk shed for a large proportion of their supplies for butter manufacture. Then too, a smaller proportion of the butterfat used in larger centres is delivered direct by the producer. Only 7·8 per cent of the cream used by city creameries was delivered by producers, while 5·1 per cent was expressed and 41·1 per cent trucked. For town and village plants about 40 per cent was delivered, 30 per cent expressed and 30 per cent trucked.

Creamery Returns.—The profit or loss on creamery operations for city and country creameries is presented in Table 3. The manufacturing cost established in this study has been used in the calculations, so that the profit and loss will not be exactly the same as that presented by the creamery operating statements. The selling price of butter is given on an f.o.b. factory basis.

The selling price f.o.b. factory for butter in solids averaged 17·73 cents per pound for all creameries. For city plants the figure was 18·77 cents or 1·04 cents above the average. Town and village creameries received 17·43 cents and 17·63 cents respectively on the average for butter.

The total cost of the butter manufactured in city plants averaged 18·20 cents in comparison to 17·27 cents for all creameries and 17·07 cents and 17·13 cents for town and village creameries respectively. This higher cost in city plants was occasioned by higher costs for gathering cream and higher manufacturing costs.

The relatively higher returns for butter, however, offset higher costs in city plants and a profit of ·57 cent per pound butter was received. This figure was ·11 cent above the average for all creameries. In town creameries the total cost of butter was below average, but the relatively low return for butter reduced profits to ·10 cent per pound butter below the average for all creameries. Village creameries on the other hand had greater profits than the average but somewhat less than the city plants.

Converting the returns to producers presented in Table 3 to a butterfat basis, producers delivering to village creameries received 15·45 cents or ·14 cent above the average for all creameries for their butterfat. The amount received by producers from town creameries averaged 15·35 cents or ·04 cent above the average. Producers delivering to city plants were paid 14·82 cents per pound butterfat or ·49 cent less than the average paid by all creameries.

TABLE 3—RETURNS TO PRODUCER AND TO CREAMERY PER POUND BUTTER MANUFACTURED IN CREAMERIES CLASSIFIED ACCORDING TO PLACE OF OPERATION, PRAIRIE PROVINCES, 1933

Return or cost per pound butter	Creameries situated in			All creameries
	Cities	Towns	Villages	
	cents	cents	cents	cents
Selling price f.o.b. factory	18·77	17·43	17·63	17·73
Net return to producer	12·05	12·58	12·69	12·55
Hauling and express	1·79	·91	·98	1·08
Cartage	·09	·03	·03	·04
Commission on cheques	·18	·15	·15	·15
Total cost butterfat	14·11	13·67	13·85	13·82
Manufacturing cost	4·09	3·40	3·28	3·45
Total cost of butter	18·20	17·07	17·13	17·27
Profit or loss	·57	·36	·50	·46
Number of factories No.	8	25	45	78
Average pounds of butter lbs.	527,501	404,775	288,879	350,500

In summary it may be said that place of operation affects creamery costs considerably. Creameries situated in large centres of population had higher costs for gathering cream, because of the necessity of going beyond the natural market milk shed for a portion of the cream supply. Country creameries had a relatively larger supply of cream within a short distance of the factories. Higher overhead costs were encountered in city plants. Land values were higher, a direct result of location. More costly creamery buildings were found in the city which added to overhead costs. Administrative costs in city creameries were double those of country plants. Higher salaries paid to officials and larger staffs were the chief causes of this difference. In the smaller country plants much of the accounting work was done by the operator of the creamery. Country creameries therefore had the advantage over city plants in having lower manufacturing costs, and lower costs of cream transportation.

Country plants were able to pay producers somewhat higher prices for butterfat than did city creameries.

Creameries situated in cities had a decided advantage over those situated in the country in respect to butter sales. City creameries received a larger net return for butter because of the proximity to large consuming markets. It would be difficult for these plants to compete, however, with country creameries if the butter had to be shipped to other markets.

SOME FACTS ABOUT CHEESE CONSUMPTION IN CERTAIN LOCALITIES OF CANADA

G. P. Boucher

The present article is a brief analysis of the 3,213 records obtained in connection with the survey of milk and cheese consumption made in the summer of 1935 in various urban and rural parts of Canada. It deals only with the consumption of cheese. Three previous articles have been devoted to the consumption of milk and cream.

The average annual per capita consumption of cheese of all kinds in 816 representative families in the city of Oshawa, Ontario, was 8·6 lbs. according to the figures given by the housewives to enumerators who called on them for information on cheese consumption in 1935 (Table 1). In Calgary the per capita consumption was 7·5 lbs. and in Quebec City 5·2 lbs.

Of all the localities visited the average per capita consumption was highest in the fifty families in the Ontario cheese producing area near Belleville where the consumption per person was 11·9 lbs. This district was selected as representative of other rural cheese producing areas of the province of Ontario. The lowest average per capita consumption in the localities where information was obtained was amongst the farm families in a non-producing cheese region of the province of Quebec, where only 2·1 lbs. per person per year was consumed.

The average for the 3,213 families was 6·7 lbs.[1]

The consumption of new or mild Canadian cheese was found to be larger than the consumption of old or strong Canadian Cheddar, but the figures for strong Canadian cheddar are larger than existing information on total sales of strong cheese would seem to warrant. This probably indicates a lack of knowledge by consumers of what constitutes old or strong cheese as compared with new or mild cheese.

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[1] This average figure for per capita consumption of cheese is considerably larger than the average for Canada as reported by the Dominion Bureau of Statistics. It is probable that as in most cases cheese is not purchased regularly, housewives over-estimated their purchases when giving information to enumerators. An attempt was made to determine the extent of these over-statements of purchases. Actual purchases of cheese by fifty representative families, as revealed by charge accounts of a retail store were obtained in Oshawa, which showed the per capita consumption to be 6·9 lbs. (*See* Economic Annalist, Volume VI, No. 6, December, 1936, Page Nine). This figure is somewhat lower than the figures for Oshawa as shown in Table 1. No information on charge account purchases could be obtained in Quebec city, but purchases of 42 French-Canadian families on charge accounts of retail stores in Montreal were obtained which showed the per capita consumption to be 5·6 lbs. this figure is actually higher than the average given in Table 1 for Quebec city, where the information was taken largely from French-Canadian families. It is probable that home-made cottage cheese which was consumed in considerable quantities by certain families, and which is included in the figures given for this survey, is not included in the average for Canada as reported by the Dominion Bureau of Statistics. This would tend to raise the average of the survey figures above the figures for Canada. It must be remembered, too, that only families in certain localities of Canada were covered by the survey reported herein. Probably many areas of Canada not included in the survey have a much smaller per capita consumption of cheese than those which were studied. Support is given to this opinion by the fact that in Table 1 the consumption of cheese in the Quebec rural non-cheese producing area was shown to be only 2·1 lbs. per capita, which is only about one-half the reported average for Canada.

Consumption of Canadian Cheddar Cheese.—Of the three cities, Oshawa had the highest annual per capita consumption of mild and strong Canadian cheddar cheese. Calgary came second and Quebec city, third, with an average per capita consumption of mild Canadian cheddar cheese of 1·1 lbs. per year and an average per capita consumption of strong Canadian cheddar of 0·7 of a pound per year as compared with an average per capita consumption of mild Canadian cheddar cheese of 2·5 lbs. and an average per capita consumption of strong Canadian cheddar cheese of 2·2 lbs. for the city of Oshawa. For all three cities, there was a larger consumption of mild Canadian cheddar cheese than of strong Canadian cheddar cheese.

Of the three villages, St. Romuald had the lowest annual per capita consumption of mild and strong Canadian cheddar cheese; Uxbridge had the highest average per capita consumption of strong Canadian cheddar cheese and Claresholm had the highest average per capita consumption of mild Canadian cheddar cheese. There was a marked difference in the rates of consumption of mild and strong Canadian cheddar cheese in Claresholm. The average per capita consumption of mild Canadian cheddar was 2·8 lbs. per year and the average per capita consumption of strong Canadian cheddar was only 1·1 lbs.

In the rural areas the most significant fact was the higher consumption of mild and strong Canadian cheddar cheese in rural areas where cheese is produced. The per capita consumption of Canadian cheddar cheese in the Alberta rural area came second only to the per capita consumption of the same kind of cheese in the Ontario rural cheese area.

There was not much difference in the rates of consumption of Canadian cheddar cheese in various localities, the range between the lowest and the highest rates of consumption was only 0·3 of a lb. for strong Canadian cheddar cheese, as well as for mild Canadian cheddar cheese.

Consumption of Cottage and Cream Cheese.—The average per capita and per family consumption of cottage and cream cheese per year was almost three times as low in Quebec city as in the other two cities. In villages and farm areas, the consumption of that kind of cheese was almost a negligible factor. In the Alberta rural area, however, the average per capita consumption of cottage and cream cheese per year was 1·3 lbs. This was just as high as the per capita consumption for the city of Calgary.

Consumption of Processed Cheese.—There was not much difference in the rates of consumption of processed cheese for the three cities. Quebec, with an average of 2·7 lbs., had the highest per capita consumption of processed cheese per year, and Calgary, with an average of 2·3 lbs., had the lowest. Not much variation either was noticed in the rates of consumption of processed cheese for the three villages. Claresholm had an average per capita consumption per year of 2·1 lbs. and Uxbridge and St. Romuald had an average per capita consumption per year of 1·9 lbs. The consumption of processed cheese in farm areas was rather low, except in the case of the Quebec rural cheese producing area for which the average per capita consumption was 7·0 lbs. The higher figure in that area is due to the fact that the "Island of Orleans" cheese was included with processed cheese.[1] There was little difference in the rates of consumption of processed cheese in cities, villages and farm areas. However, the relatively high consumption of processed cheese in farm areas is mostly due to the large use of "Island of Orleans" cheese in the Quebec rural cheese producing area.

Imported Cheese.—The consumption of imported cheese was a very negligible factor in all the areas surveyed. The average per capita consumption per year for all areas was only 0·1 of a pound.

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[1] Special attention will be given to the consumption of "Island of Orleans" cheese in the report on consumption of cheese in Canada now in preparation.

Table 1—Relation of Locality to Annual Consumption of Cheese in Various Urban and Rural Areas of Canada, 1935

Locality	Number of families	Number of persons	Average number of persons	Mild Canadian Cheddar		Strong Canadian Cheddar		Cottage and Cream		Processed		Imported		Total	
				Per family	Per capita	Per family	Per capita	Per family	Per capita	Per family	Per capita	Per family	Per capita	Per family	Per capita
				lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Cities—															
Oshawa	816	3,365	4·1	10·1	2·5	8·9	2·2	5·7	1·4	10·2	2·5	0·3	0·1	35·3	8·6
Quebec City	790	4,686	5·9	6·8	1·1	4·3	0·7	2·8	0·5	15·9	2·7	0·7	0·1	30·8	5·2
Calgary	996	3,995	4·0	8·5	2·1	6·5	1·6	5·2	1·3	9·4	2·3	0·7	0·2	30·2	7·5
Totals and averages for cities	2,602	12,046	4·6	8·5	1·8	6·6	1·4	4·6	1·0	11·6	2·5	0·6	0·1	32·0	6·9
Villages—															
Uxbridge	102	345	3·4	7·8	2·3	9·7	2·9	0·4	0·1	6·3	1·9	0·05	0·01	24·3	7·2
St. Romuald	48	287	6·0	5·6	0·9	3·9	0·7	0·3	0·1	11·2	1·9	....	....	21·1	3·5
Claresholm	101	432	4·3	11·8	2·8	4·8	1·1	2·1	0·5	9·1	2·1	....	....	27·8	6·5
Totals and averages for villages	251	1,064	4·2	9·0	2·1	6·6	1·6	1·0	0·2	8·3	2·0	....	....	25·1	5·9
Farm Areas—															
Ontario rural cheese producing area	50	222	4·4	29·8	6·7	21·9	4·9	....	....	1·9	0·4	....	....	53·8	11·9
Quebec rural cheese producing area	49	361	7·4	6·0	0·8	2·7	0·3	....	....	51·8	7·0	2·7	2·0	61·8	8·4
All rural cheese producing areas	99	583	5·9	18·0	3·1	12·0	2·0	....	....	26·6	4·5	1·0	0·2	57·8	9·8
Ontario rural non cheese producing area	52	236	4·5	10·6	2·3	8·8	1·9	0·8	0·2	3·6	0·8	....	....	24·0	5·3
Quebec rural non cheese producing area	108	772	7·2	3·7	0·5	2·1	0·3	1·2	0·1	9·1	1·3	....	....	15·2	2·1
All rural non cheese producing areas	160	1,008	6·3	6·0	0·9	4·3	0·7	0·4	0·1	7·3	1·2	....	....	18·1	2·9
Alberta rural area	101	407	4·0	12·1	3·0	6·2	1·5	5·1	1·3	3·7	0·9	0·2	....	27·3	6·8
Totals and averages for farm areas	360	1,998	5·6	11·0	2·0	6·9	1·3	1·7	0·3	11·6	2·1	0·4	0·1	31·6	5·7
Grand totals and averages	3,213	15,108	4·7	8·8	1·9	6·6	1·4	4·0	0·9	11·4	2·4	0·5	0·1	31·4	6·7

CONSUMPTION OF MILK IN VANCOUVER IN RELATION TO INCOME

Charlotte I. Johnson

Figures for the consumption of milk by the 1,083 families from whom records were obtained in Vancouver in 1936, show a close relationship between income per capita and milk consumption, according to a survey conducted by the Economics Branch in co-operation with the British Columbia Department of Agriculture. As income rose, the daily amount used per capita increased from approximately ·58 pints for those in families with incomes of less than $300 per person to ·78 pints by families with incomes of $900 or more per person (Table 1). The average consumption of milk by 2,007 persons, or 47 per cent of the total of 4,255 was less than ·59 pints per day which was the rate of consumption of those receiving relief.

Table 1—Relation Between Consumption of Milk by 1,083 Families and Per Capita Income, Vancouver, 1936

Income per capita	Number of records	Number of adults	Number of children	Average household	Total milk used daily	Daily consumption per capita
				No.	pints	pints
Not stated	2	7	7	7·0	4·0	·29
Relief	69	162	134	4·3	174·1	·59
Less than $300	347	1,013	698	4·9	997·7	·58
$300–$599	420	1,180	346	3·6	1,057·8	·69
$600–$899	194	520	56	3·0	413·0	·72
$900 and over	51	124	8	2·6	104·8	·79
Total or average	1,083	3,006	1,249	3·9	2,751·4	·65

The number in the family, as well as the total family income, was important in determining per capita income, as the size of the family decreased with increasing per capita income.

Less than 15 per cent of the adults drank milk among those families with per capita incomes of less than $600 per annum. (Table 2.) In those income groups, the daily per capita consumption of milk as a beverage by adults was therefore very low, being less than ·15 of a pint.

Table 2—Relation Between Consumption by Adults of Milk as a Beverage and Per Capita Income in 1,083 Families, Vancouver, 1936

Income per capita	Number of records	Number of adults	Number of adults drinking milk	Percentage of adults drinking milk	Daily per capita consumption as a beverage by adults
				%	pints
Not stated	2	7	0	0·0	0·0
Relief	69	162	17	10·5	·08
Less than $300	347	1,013	74	7·3	·07
$300–$599	420	1,180	178	15·1	·14
$600–$899	194	520	118	22·7	·20
$900 and over	51	124	28	22·6	·23
Total or average	1,083	3,006	415	13·8	·13

The percentage of children (under 16 years of age) drinking milk and the per capita consumption of children steadily increased with higher incomes (Table 3). The greatest difference in percentages and a large difference in per capita consumption were found between the groups with per capita incomes of less than $300 and those of $300-$599, but over 33 per cent of the children in all groups received more than 1 pint per day per capita. The percentage of children of school age who drank milk at school was low.

Table 3—Relation Between Consumption by Children of Milk as a Beverage and Per Capita Income in 1,083 Families, Vancouver, 1936

Income per capita	Number of records	Number of children	Number of children drinking milk	Percentage of children drinking milk	Daily per capita consumption as a beverage by children	Percentage of children drinking milk at school
				%	pints	%
Not stated	2	7	7	100·0	0·80	0·0
Relief	69	134	112	83·6	0·76	5·9
Less than $300	347	698	572	81·9	0·77	6·5
$300–$599	420	346	324	93·6	1·13	9·6
$600–$899	194	56	53	94·6	1·21	4·7
$900 and over	51	8	8	100·0	1·69	14·3
Total or average	1,083	1,249	1,076	86·1	0·90	7·2

On the whole, the average per capita consumption for Vancouver of ·65 pints per day is lower than that found in the three other cities studied, namely, Quebec, Oshawa, and Calgary (Economic Annalist, April, 1937). Eighty-three per cent of the total 4,255 persons and approximately 95 per cent of the children were in families with per capita incomes lower than $600 but even those with incomes of $600-$899 did not use as much milk as families in the highest income group.

THE RETAILING OF FRUITS AND VEGETABLES BY FOUR CHAIN STORES IN TORONTO[1]

B. A. Campbell

The cost of fresh fruits and vegetables sold by four Chain Grocery Stores[2] in Toronto in 1935 totalled $1,556,516 and amounted to 25,176 Tons. This produce had an initial cost in Toronto of $1,456,141 and represented 14·7 per cent of the total value of all produce sold by 4 main retail marketing agencies.

Table 1—Value and Tonnage of All Produce Sold in Toronto by Four Retail Marketing Agencies, 1935

Agency	Weight		Cost	
	Tons	%	$	%
Independent retail stores	151,712	73·5	7,037,537	71·0
Chain stores	25,176	12·2	1,456,141	14·7
Pedlars	24,855	12·0	1,111,980	11·2
Hotels and institutions	4,734	2·3	301,012	3·1
Total	206,477	100·0	9,906,670	100·0

The four companies maintained warehouses in Toronto from which produce was distributed to the 261 branch stores in Toronto which were operating in 1935. The total value of all the fresh fruits and vegetables handled through the four Toronto warehouses was $2,132,214 which included sales to country branches amounting to $575,698. (Table 2.)

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(1) Part of the report of a survey of the marketing and distribution of fresh fruits and vegetables in Toronto which was made in 1936 by the Economics Branch in co-operation with the Ontario Department of Agriculture.

(2) Atlantic and Pacific Tea Co., Ltd.; the Dominion Stores Ltd.; Loblaw's Groceterias Co., Ltd.; and Stop and Shop Ltd.

TABLE 2—TURNOVER OF FRESH FRUITS AND VEGETABLES BY FOUR TORONTO CHAIN STORES IN 1935

Purchases	Weight		Cost	
	Tons	%	$	%
Direct	15,849	48	681,714	32
Indirect	17,330	52	1,450,500	68
Total purchases	33,179	100	2,132,214	100
Deduct: shipments to branch stores outside Toronto	8,003	24	575,698	27
Tonnage and value of commodities sold in Toronto	25,176	76	1,556,516	73

Chain Store receipts were of two kinds—direct and indirect. Direct receipts refer to the produce received direct at the warehouses from growers or shippers and include arrivals by motor truck and railway cars. Indirect receipts include all produce bought from wholesale selling agencies in Toronto.

Total direct purchases in 1935 were $681,714 of which $345,861 arrived in carloads and $335,853 came in by motor truck. Forty-three per cent by value of this total consisted of fruits, forty per cent of vegetables and the remaining seventeen per cent of potatoes. (Table 3.)

TABLE 3—DIRECT PURCHASES OF FRUITS AND VEGETABLES BY FOUR TORONTO CHAIN STORES DURING 1935

Origin		Fruits	Vegetables	Potatoes	Total
Ontario (excluding blueberry areas)	$	111,261	217,128	24,094	352,483
	Tons	1,809	5,125	1,251	8,185
Ontario and Quebec blueberry areas	$	97	....	....	97
	Tons	1	....	....	1
Other Canadian provinces	$	....	....	82,656	82,656
	Tons	....	....	4,427	4,427
Countries other than Canada	$	185,781	53,608	7,089	246,478
	Tons	2,266	823	147	3,236
Total cost	$	297,139	270,736	113,839	681,714
Total tonnage	Tons	4,076	5,948	5,825	15,849

Of the 15,849 tons of produce purchased, 7,365 tons valued at $335,853 came into Toronto by motor truck and 8,484 tons valued at $345,861 by car load lots.

Direct Motor Truck Purchases.—Practically all of the direct purchases of Ontario produce were transported by motor trucks. Growers received orders daily from the head offices of the chain stores so that delivery could be made the same evening and fresh produce was thus made available to customers in the stores the following morning. For this reason growers located in the area immediately adjacent to Toronto had the advantage of this trade and supplied most of the chain stores' needs for Ontario grown produce. The market garden area west of Toronto and within a 20 mile radius supplied more than 50 per cent of the total chain store motor truck purchases. A corresponding area to the East of Toronto made up 11 per cent while the Oakville-Burlington and Niagara districts totalled 25 per cent. The remaining 14 per cent came in from all other districts of Ontario.

Chain stores did not buy on the Dundas Street trucking market and bought only a small amount from trucker-dealers. Most of the celery was purchased from celery washers.

Direct Carload Arrivals.—Direct carload receipts of fresh produce by chain stores were chiefly from sources other than Ontario although some carloads did come in from such outlying districts as Leamington and the potato districts around Orangeville. While all chain stores received cars of fruits and vegetables by rail they were limited largely to bananas and the less perishable products. In 1935 one chain store imported some of the more perishable commodities but has since discontinued the practice. The type of fruit and vegetable purchased in carloads is shown by the 1935 receipts (Table 4).

TABLE 4—CARLOAD PURCHASES OF FRUITS, VEGETABLES AND POTATOES BY FOUR TORONTO CHAIN STORES, 1935

Commodity	Number of cars	Weight	Cost
		Tons	$
Fruits—			
Bananas	164	1,640	117,050
Citrus Fruits	26	461	47,072
Pineapples	8	97	6,727
Others	6	68	14,932
Total	204	2,266	185,781
Vegetables—			
Onions	28	418	10,269
Lettuce	20	238	20,176
Watermelons	19	262	6,610
Cabbage	6	57	3,527
Spinach	6	53	4,703
Sweet Potatoes	5	37	1,925
Others	15	176	16,667
Total	99	1,241	63,877
Potatoes	231	4,977	96,203
Grand Total	534	8,484	345,861

Bananas and pineapples came from the West Indies and Central America while most of the other fruit brought in by rail was from California. Carloads of vegetable were received from California, Georgia, Arizona and other States. Potato carlot purchases were primarily from Prince Edward Island and secondly from New Brunswick and Ontario. In 1935, 203 out of a total of 231 cars of potatoes came from the two Canadian Maritime provinces.

Indirect Purchases.—Indirect purchases valued at $1,450,000 and totalling 17,330 Tons were obtained by the chain stores from wholesalers and banana jobbers in 1935 (Table 5).

TABLE 5—INDIRECT PURCHASES OF FRESH FRUITS AND VEGETABLES BY FOUR TORONTO CHAIN STORES DURING 1935

Source of supply	Weight		Cost	
	Tons	%	$	%
Wholesalers	16,700	96·0	1,401,000	97·0
Banana jobbers	630	4·0	49,506	3·0
Total	17,330	100·0	1,450,506	100·0

The purchases from wholesalers consisted largely of the more perishable imported fruits and vegetables such as berries, lettuce, grapes, tomatoes and melons as well as other vegetables required in small quantities.

Chain stores fill an important place in the marketing of fruits and vegetables in Toronto. They act as a wholesale buying agency as well as a retail selling agency and for this reason have advantages in buying which are not possessed by other retail marketing agencies.

THE OVERSEAS TRADE OF CANADA 1936

The table presented below shows in percentage form Canada's exports and imports for the calendar year ending 1936. It excludes exports of foreign produce and bullion transactions. While the table is almost self explanatory, the figures show very clearly the main channels through which our overseas trade flows.

Our exports went mainly to the British Empire Countries and the United States of America and her Colonies and only twelve per cent was shipped elsewhere. The three main natural products of the soil, the forest and the mine, accounted for eighty-eight per cent of our total exports, either in raw or manufactured form, and the fishing industry also contributed toward this figure. The nonferrous group include such products as aluminium, copper, lead, nickel, gold, and zinc, which of recent years have become of increasing importance among Canada's exports.

The British Empire and the United States of America supplied the bulk of Canada's imports and we received from these sources just about the same percentage of all our imports as they received of all our exports. Imports were more evenly divided among the main groups than exports.

The figures for the agricultural group, which at first glance seem somewhat large for a country which is itself agricultural, take a quite normal place when it is remembered that we must import such commodities as tea, coffee, sugar, citrus fruits, rubber, some tobacco, and hides. The fibres and textiles group include cotton, silk, wool and wearing apparel, while iron and its products include iron and steel generally and heavy machinery not commonly manufactured in Canada. Among the non-metallic group are such products as coal, petroleum, clay and pottery-ware, glass and glassware, and stone.

Exports were valued at $1,015 million and imports at $635 million, making a total merchandise trade of $1,650 million. Exports of imported foreign produce amounted to $12½ million.

Trade of Canada by Certain Division of Countries and Main Groups of Commodities for Calendar Year ending 1936 (Merchandise only).
Expressed in Percentage of Value.

Countries	Agricultural products	Fibres, textiles and products	Wood and paper	Iron and its products	Non-ferrous metals and products	Non-metallic minerals and products	All other products	Total merchandise
	per cent	per cent	per cent	per cent	per cent	per cent	per cent	per cent
Exports to:								
British Empire...	28·6	0·7	5·1	4·1	7·6	0·5	1·0	47·6
United States of America........	11·6	0·3	14·1	0·6	10·5	1·5	1·8	40·4
Other Foreign Countries.......	6·3	0·2	1·5	0·4	2·8	0·4	0·4	12·0
Total.....	46·5	1·2	20·7	5·1	20·9	2·4	3·2	100·0
Imports from:								
British Empire...	11·7	8·4	0·6	3·6	1·2	2·1	2·2	29·8
United States of America........	7·7	5·6	3·4	17·1	3·8	13·6	7·2	58·4
Other Foreign Countries.......	4·6	1·6	0·3	0·6	0·5	2·5	1·7	11·8
Total.....	24·0	15·6	4·3	21·3	5·5	18·2	11·1	100·0

ECONOMIC LITERATURE

FARM TENURE IN IOWA. Tenancy Problems and their relation to Agricultural Conservation by Rainer Schickele and Charles A. Norman, Bulletin 354. Facts on the Farm Tenure Situation by Rainer Schickele, Bulletin 356. The National Farm Institute Symposium on Land Tenure, Bulletin 357. Iowa State College of Agriculture and Mechanical Arts.

The above is a series of three bulletins dealing with farm tenure in Iowa. The first of the series dealing with tenancy from the standpoint of conservation stresses the effect of the mobility of tenants on soil conservation practices. In Iowa it was found that tenants remain on one farm an average of four years, one-third of all tenants remaining on the same farms only one year. The two underlying causes given for the shifting tenancy are (1) the instability of land ownership resulting from land speculation and a heavy debt burden following the rise and fall of commodity prices; and (2) the insecurity of tenure. Suggestions made for the improvement of leasing practices included longer lease terms, automatic continuation clause with reasonable notice in case of discontinuance, compensation for unexhausted improvements, provision for cash rent adjustments during emergency periods, and leases requiring adequate conservational crop rotation.

Bulletin 356 in which are presented data pertaining to the farm tenure situation in Iowa, shows a steady trend from ownership to tenancy since 1890. This increase has been particularly marked in the case of share-tenancy. Tenants and mortaged owners are shown to grow a greater proportion of soil depleting crops than free-owners, their farms being in poorer condition as a result of the pressure to meet their payments. On the basis of the evidence presented the conclusion is reached that greater security of tenure would encourage better farm management practices.

Bulletin 357 presents the report of the symposium on land tenure of the National Farm Institute held at Des Moines, Iowa, February 19 and 20, 1937. Papers which are reproduced include "What has happened to the Agricultural Ladder" by I. W. Schultz; "The Farm Tenure Situation in the Cotton South" by W. W. Alexander; "The Upward Spiral in Tenancy and Our Land Policies in Retrospect" by B. H. Hibbard; "Influence of Business Booms and Depressions on Farm Income" by G. R. Davies; "State and Federal Responsibilities in Improving Farm Tenure" by Edward A. O'Neal; "State Action on Farm Tenancy" by E. J. Meeman; "Credit Policies That Will Give Us a Better Agricultural Ladder" by A. S. Goss; "Farm Tenure Standpoint of Institutional Owner" by G. S. Nollen, "Stability for Agriculture" by H. L. Brown; and "Iowa Farm Tenancy" by N. G. Kraschel.

A GRAPHIC SUMMARY OF FARM TENURE. H. A. Turner, U.S. Department of Agriculture, Misc. Pub. 261, 1936.

This publication which was prepared in co-operation with the Resettlement Administration is one of a projected series of 10 publications to be prepared under the general direction of O. E. Baker for the purpose of bringing the graphic summary of American Agriculture up to date. Presents a very clear picture of the farm tenure situation in the United States based on the census reports of 1930 and 1935.

FARM TENANCY, Report of the President's Committee, prepared under the auspices of the National Resources Committee, Washington, February, 1937.

This report presents the findings of a special committee appointed by the President of the United States to recommend a long-term program for the alleviation of the shortcomings of the farm tenancy system in the United States.

The report proper which consists of three parts; findings, recommendations for action and official documents, is accompanied by a technical and statistical supplement dealing with Farm Tenancy in the United States, Problems associated with Tenancy in the United States and Some Tenure Programs of other nations.

As pointed out in the technical supplement, the number of tenants in the United States had increased continuously from 25 per cent of all farmers in 1880 to 42 per cent in 1935, although a policy of encouraging the ownership of farms by their operators was followed consistently throughout the period. Factors associated with such a growth include the following: fee-simple ownership of land, policies for the conversion of public domain into private property, speculation and high land values in relation to income, conditions arising from the freeing of slaves, credit conditions unfavourable to the purchase of farms by their operators, and recurring economic depressions resulting in loss of farms by operating owners through bankruptcy, inability of labourers and tenants to accumulate operating equipment and funds for making a down payment on a farm and increased farm population as a result of the disruption of the normal movement of population from the farm to cities.

Tenant contracts are of several types. Among the most important systems of rental payments in the United States are those which provide for cash, live stock-share, crop-share, crop-share-cash, and cropper contracts. Leases are generally little more than oral agreements usually of one year duration with no provision for compensation to the tenant for improvements made.

Recommendations for action include the following:

(1) The setting up by the Secretary of Agriculture of an organization to be known as the Farm Security Administration, which shall administer the proposed Federal policies with regard to tenancy and with which shall be affiliated the Farm Security Corporation.

(2) A program of land purchase and disposition under long-term contracts of sale to operating farmers by the proposed Farm Security Corporation. Contracts of sale to follow a trial lease period of not more than 5 years, payments which should be on an approved variable basis to extend over a period of from 20 to 40 years. In order to prevent the resale of property at a profit following a rise in land values it was recommended that the final payment be not receivable until the end of the contract period.

(3) Leasing of land from land owners for periods of 20 years or longer by the corporation with a view to sub-leasing the property to farmers for corresponding periods.

(4) To create farm holdings of such a size as to form an efficient unit for operation as a family-size farm and to aid in the establishment of co-operative enterprises which shall overcome any economic disadvantages of such a unit.

(5) Extension of credit by the corporation to farmers whose equity in their holdings falls below the 25 per cent minimum required by the Farm Credit Administration as a measure to help present owners avoid losing their farms.

(6) Provision of a system of rehabilitation loans associated with technical guidance to disadvantaged farmers.

(7) Aid to migratory farm labourers in the form of improved living facilities and assistance in becoming tenants.

(8) A program for acquiring and developing sub-marginal land in accordance with approved land use practices.

(9) Measures to discourage land speculation and ownership by non-farmers.

(10) State legislation providing for written farm leases and added protection to tenant rights.

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The
ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
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DEPARTMENT OF AGRICULTURE
OTTAWA

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October, 1937

THE ECONOMIC SITUATION

International Trade.—A continued expansion in world trade was shown during 1936 according to figures issued by the League of Nations. The gold value of world trade, which had risen by 2 per cent between 1934 and 1935, showed a further increase of nearly 8 per cent. This figure does not actually represent the increased volume of trade during 1936 for in that year average gold prices rose for the first time since 1925, the increase being approximately 2 to 2½ per cent. The increase in volume over 1935 was therefore about 5 per cent and at the end of the year the quantum of world trade was approximately only 15 per cent below that of 1929.

During the first six months of 1937 the rise in the gold value of world trade was even more marked at 26 per cent. This increase was much influenced by rapidly rising prices of wheat, which between June, 1936, and June, 1937, rose 76 per cent, nickel 65 per cent, coal 60 per cent, copper 54 per cent, zinc 49 per cent and lead 45 per cent. It is estimated that prices of raw materials increased about 22 per cent during the first quarter of the year and as they have since remained at comparatively the same level, and the price level of other commodities traded in internationally has also risen, the volume of world trade for the first half of 1937 has probably increased at about the same rate as during 1936.

World Wheat Situation.—World supplies of wheat are the smallest since 1926 and the carry-over of approximately 245 million bushels is the lowest figure since the Great War. The Canadian crop suffered severely from drought and the exportable surplus for the present crop year is estimated to be below 100 million bushels. This is the lowest figure since the short crop of 1919-20, when 92 million bushels were shipped. The latest official estimate in the United States places the combined winter and spring crop at 890 million bushels, an increase of 234 million bushels over 1936 and 307 million above the average for the last four years. It is expected that 150 million bushels will be available for export. The Italian crop is estimated at 295 million bushels—70 million above 1936 and France and Greece report increases of 35 and 13 million respectively. The German crop is expected to be short by 20 million bushels. The Danubian countries are likely to have 70 million bushels for export and Broomhall places the exports from the Soviet Union at 30 million. The same authority estimates shipments from the Southern Hemisphere during the coming crop year at 176 million bushels—93 million less than 1936-37, as it is expected the Australian surplus will be nearly 40 million bushels below last year and early estimates in Argentina report lack of rain in many areas which is hampering seeding and retarding early growth.

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

Year	Wholesale Prices 1926 = 100				Retail prices and cost of services (5)	Production (6) 1926 = 100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·4	57·1	73·9	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·7	112·3	114·4	82·7	141·3
1936									
June....	72·3	64·5	60·8	70·7	80·0	111·1	113·0	45·1	155·0
July....	74·4	66·3	63·2	71·6	80·4	110·8	112·0	77·5	134·2
Aug....	76·2	73·3	74·1	71·9	81·0	113·5	115·8	117·6	132·8
Sept....	76·4	74·4	74·2	74·7	81·1	120·0	123·9	116·6	136·7
Oct....	77·1	76·3	76·4	76·2	81·1	121·5	125·5	90·3	145·9
Nov...	77·2	77·1	75·6	79·5	81·4	118·5	121·7	72·7	158·3
Dec....	79·7	82·4	83·4	80·8	81·7	118·4	121·1	51·0	153·5
1937									
Jan.....	81·3	86·0	88·3	82·1	81·6	116·9	119·4	42·0	162·5
Feb....	82·9	87·0	89·6	82·6	81·7	115·0	117·7	31·4	170·0
Mar....	85·5	90·0	93·4	84·2	82·0	118·7	122·4	37·3	178·6
April...	86·1	91·4	94·4	86·3	82·2	124·0	128·8	62·3	174·3
May....	85·1	87·8	89·0	85·7	82·8	122·0	126·1	53·1	189·3
June....	84·6	83·7	85·1	81·4	82·7	126·0	130·6	29·3	174·1
July....	87·5	92·5	97·7	83·9	83·0	126·5	130·9	45·7	148·2
Aug.....	85·6	84·9	84·6	85·5	83·6	123·4	127·2	51·6	139·9

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1935, p. 17.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1935, p. 53, and Monthly Mimeographs 1936 and 1937.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100.

Prices and Price Indexes 1913-1935, p. 117, and Monthly Mimeographs, 1936-1937.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

Yearly index numbers for 1936, subject to revision.

Production indexes for 1936 were revised due to changes in the seasonals to reflect the influence of recent years. Other alterations were the addition of the output of creamery butter and the substitution of the production of factory cheese for cheese exports.

Canadian Economic Situation.—August was marked by a decline in commodity prices. Actually the decline began in the latter part of July but was not sufficient to prevent a rise in the monthly wholesale commodity price index for July to 87·5 and of the index of prices of Canadian farm products to 92·5. Price declines during August extended to almost all commodity groups except animal products, non-metallic minerals and chemicals. A substantial decrease in grains occurred but animal products showed a slight gain. The price index of all wholesale commodities for August was 85·6 and for Canadian farm products 84·9.

The comparatively high prices of wheat and coarse grains, which maintained beyond the middle of July, declined in August, and the average price of No. 1 Manitoba Northern cash wheat for August was almost 14 cents below that for July and the net decline for the month was 9 cents. Livestock prices remained steady during the two months under review and despite fairly heavy arrivals during August, prices were well sustained.

Increased prices for food since June were mainly responsible for a rise of nearly one point in the retail cost of living index. Eggs, butter, cheese, flour, potatoes, sugar, tea and pork all advanced in price during August and the index for the month was 83·6.

The first official estimate of the Dominion Bureau of Statistics issued on 10th September places the wheat crop in the Prairie Provinces at 164 million bushels, a slightly better figure than was expected, but still the smallest in five consecutive years. Saskatchewan and Eastern Alberta suffered severely from drought conditions but Manitoba is harvesting an exceptionally good crop.

Economic conditions for the first seven months of the year as measured by the physical volume of business are at about a 12 per cent higher level than during the similar period of 1936. Newsprint, mining and power industries show marked gains and the increase in the volume of manufactured goods is nearly 14 per cent. Export trade has increased nearly 23 per cent and is more widely distributed. Employment continues to show moderate improvement and the seasonally adjusted index on 1st August was 114·9 (base 1926= 100), a higher figure than at any date since the first quarter of 1930.

The Situation in the United Kingdom.—Economic conditions in the United Kingdom continue on a high level and the month of July showed a welcome increase in exports accompanied by a decrease in imports. In view of the adverse balance of trade of £232 million for the first seven months of the year compared with £185 million in 1936 and £115 million in 1935 this condition may be regarded with satisfaction even though there is reason to believe that " invisible " exports are increasing rapidly at the present time. The increase in exports was distributed over all classes of goods.

The index number of prices of agricultural produce (1911-13=100, adjusted for wheat and cattle payments) rose slightly during August to 136. Prices of barley, fat pigs, eggs, butter, cheese and wool increased while those of wheat, oats, fat cattle, sheep and potatoes declined. The index for August, 1936, was 124 and for August, 1935, 120. The number of unemployed continue to decline and while it is estimated that nearly ten per cent of insured persons are still without work, 511,000 persons who were idle a year ago now have employment. The Board of Trade index of wholesale prices (1930=100) rose from 110·7 in May and June to 111·5 in July and the cost of living index of the Department of Labour (July 1914=100) advanced 3 points over the May and June figure of 150 to 153 for July.

Conditions in the United States of America.—The agricultural position at the end of July was the brightest for a number of years. Despite drought losses in certain areas the wheat crop is large and prices high. The coming winter feeding season promises to be one of high livestock prices and relatively low feed costs. While there was a slight levelling off in industrial activity during June and July it is not expected it will affect seriously the demand for farm products. At July the Bureau of Labour index of farm prices (1909-1914=100) was 125, somewhat lower than the figure for the first five months of the year, but one point higher than June.

THE ACQUISITION OF LAND IN THE VULCAN-LOMOND AREA OF ALBERTA*

G. H. Craig and J. Proskie

When settlement began in the southern prairies, all land was of approximately the same value. Since the large part of it was open to homesteading[1] and pre-emption[2] at a nominal figure, without differentiation between soil types or other physical features, those farmers who happened to locate on the better lands reaped the profits from later increases in value. Many farmers found themselves operating on very unproductive soils, suited only to an extensive system of farming and were often great distances from towns and transportation facilities. In some cases the land reverted very rapidly to the crown through abandonment, while in other cases, the values increased but little. Thus the settlers began with very different chances of financial progress.

Varying increments or decrements from changes in the value of land were very important in farmers' financial progress from district to district and within very limited regions. The effect of such variation was the first problem which arose from the type of land policy instituted in the opening of the west.

Another closely linked problem was that of recurrent fluctuations in land values after settlement. Data will be presented which show the average prices paid by operators for their land during different time periods. The wide range in prices paid, often for the same parcel of land at different periods, is very striking. Naturally then, since buying of land involved the investment of the operator's savings and since it usually entailed the encumbrance of agreements of sale or mortgages, the changing price and yield of wheat, and business cycle fluctuations, the risk of farming was very materially increased. The present debt situation is largely a result of land purchase, usually at times when prices were high. During times of depression or drought, the assets of the farmers decrease in value and their liabilities increase. It is not only the dry regions which are faced with this problem. It is more or less universal in the farming world and often the business cycle fluctuations hit hardest in the districts of high land values due to the larger proportion of credit which is usually extended.

Table 1.—Method of Land Acquisition by Five-Year Periods, Vulcan-Lomond Area of Alberta, 1900-1935

Year acquired	Vulcan District					Lomond District				
	Homestead	Preemption	Purchase	Legacies	Total	Home stead	Preemption	Purchase	Legacies	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1900–1904	12	....	1	....	13	....	....	....	....	....
1905–1909	53	6	24	1	84	87	67	3	2	159
1910–1914	2	1	57	....	60	28	13	25	1	67
1915–1919	....	....	114	2	116	2	1	66	4	73
1920–1924	....	....	16	9	25	2	1	18	2	23
1925–1929	....	....	97	6	103	10	....	192	4	206
1930–1935	1	....	32	7	40	4	....	60	6	70
All acquisitions	68	7	341	25	441	133	82	364	19	598

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* This article presents a part of the data obtained in a study of Land Utilization conducted in 1935 by the Economics Branch of the Dominion Department of Agriculture in co-operation with the University of Alberta. The area lies approximately one hundred miles south-east of Calgary and is typical of the wheat-growing areas of Alberta.

[1] Homestead grants of 160 acres made to all settlers for the payment of $10 fee and title obtainable in three years after completion of certain duties and improvements.

[2] Pre-emption grants of 160 acres to all settlers after 1908 for the sum of $80 plus specified duties and improvements to be completed within a period of three years.

Settlement and Method of Acquisition.—Many farmers now living in the Vulcan-Lomond district got their start by obtaining free land. Land for homesteading was thrown open at an earlier date in the Vulcan district—about 1904, and in the Lomond district about 1908. Of all the homesteading owners that were interviewed, 18 per cent homesteaded before 1905 and 96 per cent before 1909 in the Vulcan district, (Table 1). Only 65 per cent of the owners homesteaded during or before 1909 in the Lomond district. The years 1909-10 were those in which the largest amount of land was homesteaded.

A number of homesteaders pre-empted another quarter at the time they filed on their homestead. The earliest pre-emptions reported for both districts were between 1908 and 1909. Others acquired land through purchase, one operator reporting a purchase as early as 1900 in the Vulcan district, while the earliest purchase reported for Lomond district was in 1905.

Amount of Land Acquired.—A summary has been prepared to show the amount of land obtained by homesteading, pre-emption, legacies and purchases. This information is assembled in Table 2.

The figures in Table 2 indicate that of the total land purchased, 52 per cent was purchased before 1920 in the Vulcan district and only 20 per cent in the Lomond district during the same period. After 1920 Lomond operators made more purchases than did those of Vulcan but a higher percentage owned land was obtained by purchase over the whole period in the Vulcan than in the Lomond district (81 per cent as compared with 69 per cent). The abandonment of 1921-24 and subsequent resettlement was responsible for the larger number of Lomond purchases after 1920.

TABLE 2.—ACREAGE OF LANDS ACQUIRED BY THE OWNER OPERATORS OF FARMS BY HOMESTEADS, PRE-EMPTIONS, LEGACIES AND PURCHASE IN THE VULCAN AND LOMOND DISTRICTS OF ALBERTA

Method of acquisition	Vulcan District		Lomond District	
	Acres	Per cent total land obtained	Acres	Per cent total land obtained
Homestead	10,960	11	21,688	18
Pre-emption	1,120	1	12,800	10
Legacies	7,739	7	4,000	3
Total	19,819	19	38,488	31
Purchases before 1920	44,576	42	17,120	14
Purchases 1920-1935	40,936	39	67,761	55
Total	85,512	81	84,881	69
Total land obtained	105,331	100	123,369	100

Establishing the Land Unit.—The average original holding of the Vulcan farmers was 271 acres, while that of Lomond was 214 acres. The range of addition per operator for those that made any additions varied from 80 to 640 acres for Vulcan and 160 to 224 acres in the Lomond district.

Not all operators, however, made additions beyond their original holdings. Of the 186 operators involved in the Vulcan district (Table 3), 38 per cent made no additions. In the Lomond district, of the 216 operators involved, 23 per cent made no additions, while 51 per cent made no more than one. Lomond operators discovered the need for larger farms and, consequently, made a larger number of additional acquisitions.

TABLE 3.—NUMBER AND PERCENTAGE OF THOSE MAKING ADDITIONS TO ORIGINAL HOLDINGS IN THE VULCAN AND LOMOND DISTRICTS OF ALBERTA, 1900-1935

Number of acquisitions	Vulcan District		Lomond District	
	Number of operators	Operators making acquisitions	Number of operators	Operators making acquisitions
	number	per cent	number	per cent
Original holding	186	100·0	216	100·0
First addition	115	61·8	167	77·3
Second addition	62	33·3	106	49·0
Third addition	34	18·3	56	25·9
Fourth addition	21	11·3	31	14·4
Fifth addition	12	6·5	11	5·1
Sixth addition	6	3·2	6	2·8
Seventh to twelfth	1	0·5	3	1·4

Price Paid for Land.—The price paid for land depends upon a number of factors, such as soil type, prices of farm products, time of purchase, access to good roads, distance from market and community services. Again, the expansion of the size of farm holding has increased the demand at times for land and temporarily raised its price. Last, but not least, is "land speculation," which may be responsible for temporary increases in the price of land.

TABLE 4.—LAND PURCHASED IN VULCAN AND LOMOND DISTRICTS OF ALBERTA, BY FIVE-YEAR PERIODS, 1900-1905

Date of purchase	Vulcan District				Lomond District			
	No. of purchases	Acres bought	Price per acre	Average cash payment	No. of purchases	Acres bought	Price per acre	Average cash payment
			$	p.c.			$	p.c.
1900-1904	1	160	5·00	20	....	....	....	....
1905-1909	21	5,180	21·93	39	3	480	14·75	70
1910-1914	55	12,885	21·67	37	23	4,160	13·43	88
1915-1919	112	24,911	27·68	47	65	12,000	17·47	77
1900-1919	189	43,136	25·11	43	91	16,640	16·38	80
1920-1924	15	4,640	29·09[1]	36	18	3,600	10·85[1]	54
1925-1929	95	26,520	24·13	39	191	47,431	7·54	51
1930-1935	32	8,816	24·52[2]	23	60	16,410	9·20[2]	35
1920-1935	142	39,976	24·78	35	269	67,441	8·12	48
Total, 1900-1935	331	83,112	24·96	40	360	84,081	9·76	56

[1] Purchases largely contracted in 1920 before the great fall in wheat prices.
[2] Includes numerous purchases made on bushelage basis without stated interest.

Table 4 summarizes the price paid per acre by five-year periods. A total of 83,112 acres of land were purchased in the Vulcan district at a cost of $2,074,120, of which 40 per cent was paid down as a cash payment. In the Lomond district, 84,081 acres of land were purchased at a cost of $820,420, of which 56 per cent was a cash payment. Land was sold at a much higher figure per acre in the Vulcan district, the average purchase price being $24.96 as compared with $9.76 in the Lomond district.

In the Vulcan district, the highest prices were paid during 1915-24 period. The high prices for farm products, because of war-time demand, resulted in a rise in prices of land during this period.

Although there was a drop in the prices of farm products in 1920, land values continued to rise in the Vulcan district, and an average of $29.09 per acre was reached for the 1920-24 period, due to the transactions in 1920.

The prices paid for land in the Lomond district follow farm prices quite closely. The highest average price per acre purchased was for the 1915-19 period, when an average of $17.47 per acre was paid. There was a decided decline in the next five-year interval, and land sold during this period averaged only $10.85 per acre.

As the relative productivity of the land became known, there was a tremendous decline in the average price paid per acre from the 1905-19 period, to that of 1920-35 in the Lomond district. During the former period land was purchased at an average price of $16.38, while during the latter it was purchased for $8.12. Only a slight decline was noticed in the Vulcan district due to continued productivity on a comparable basis with the previous period. During the 1900-19 period the average price paid per acre was $25.11 and during the 1920-35 period the average purchase price was $24.78. It is quite evident that the more stable production of the Vulcan district was reflected in the land values.

Table 5 presents a frequency distribution of prices paid per acre in both the Vulcan and Lomond districts. Less than 4 per cent of land was purchased for $5 an acre or less in the Vulcan district, while 28 per cent of the total purchase was made at $5 an acre or less in the Lomond district.

Of the Vulcan sales 53 per cent were made at over $20 an acre, while only 9 per cent of the Lomond transactions took place at over $20 an acre and sales were reported over $35 an acre.

TABLE 5.—PRICES PAID PER ACRE OF LAND IN THE VULCAN AND LOMOND DISTRICTS OF ALBERTA, 1900-1935

Range of prices paid	Vulcan District			Lomond District		
	Number	Per cent	Cumulative per cent	Number	Per cent	Cumulative per cent
$						
0 01– 5 00	12	4	4	102	28	28
5 01–10 00	29	9	13	124	35	63
10 01–15 00	47	14	27	63	18	81
15 01–20 00	67	20	47	39	10	91
20 01–25 00	71	21	68	25	7	98
25 01–30 00	33	10	78	1	†	†
30 01–35 00	18	5	83	6	2	100
35 01–40 00	15	5	88	....	....	....
40 01–45 00	10	3	91	....	....	....
45 01–50 00	17	5	96	....	....	....
50 01–55 00	4	1	97	....	....	....
55 01–60 00	3	1	98	....	....	....
60 01–65 00	2	1	99	....	....	....
65 01–70 00	2	1	100	....	....	....
70 01–75 00	1	†	100	....	....	....
	331	100	100	360	100	100

†Less than half of one per cent.

The range of prices paid for the Vulcan district was from $1.56[1] per acre purchased in the 1930-35 period up to $75[2] per acre purchased in the 1920-24 period. The range for the Lomond district was from $0.94 per acre for the 1925-29 period to $32 per acre for the 1930-35 period. This latter purchase was made on a bushelage basis, and therefore at a relatively high figure due to greater risk for the vendor.

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[1] Purchase of very rough land.

[2] Purchase of land adajcent to town of Vulcan.

Table 6.—Average Price Paid per Acre of Land Purchased by Soil Classes in the Vulcan District of Alberta, 1900-1935

Date of purchase	Blackspring silt loam	Vulcan fine sandy loam	Vulcan silt loam	Vulcan loam	Vulcan clay loam	Carmangay fine sand	All Vulcan
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1900–1904	....	....	5 00	....	....	....	5 00
1905–1909	21 65	21 09	25 00	17 55	25 00	31 54	21 93
1910–1914	21 03	19 67	20 64	23 56	23 97	21 02	21 67
1915–1919	28 05	24 97	26 72	29 91	29 11	23 03	27 68
1900–1919	24 57	23 31	24 95	25 64	26 96	23 85	25 11
1920–1924	28 75	15 62	28 57	53 18	....	8 54	29 09
1925–1929	27 52	18 25	26 51	33 24	18 64	11 42	24 13
1930–1935	19 25	25 98	17 84	39 90	13 58	30 00	24 52
1920–1935	26 15	19 90	24 62	39 37	17 13	12 02	24 78
Total, 1900–1935	25 24	21 37	24 80	32 44	22 39	17 11	24 96

Table 7.—Average Price Paid per Acre of Land Purchased by Soil Classes in the Lomond District of Alberta, 1900-1935

Date of purchase	Sundial silt clay loam	Armada clay loam	Lomond east clay loam	Lomond loam	Lomond fine sandy loam	Lomond fine sand	All Lomond
	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
1900–1904	....	....	....	....	....	....	....
1905–1909	....	....	....	14 75	....	....	14 75
1910–1914	10 00	15 62	7 34	13 05	9 58	10 00	13 43
1915–1919	19 69	20 18	16 18	16 95	21 51	15 92	17 47
1900–1919	18 30	18 52	15 81	15 46	17 53	14 61	16 38
1920–1924	....	5 09	10 71	15 51	....	....	10 85
1925–1929	9 25	9 30	7 79	7 07	7 40	4 72	7 54
1930–1935	9 72	9 08	10 10	10 42	10 34	4 48	9 20
1920–1935[1]	9 64	9 09	8 51	8 54	8 50	4 69	8 12
Total, 1900–1935	12 28	10 24	9 95	10 23	9 93	7 21	9 76

[1] Largely on a bushelage basis discounted here at an average rate of interest and average period of repayment.

Tables 6 and 7 summarize the price paid per acre for land on various soil types for both districts. At an early date unusually high prices were paid for land on the Carmangay fine sand. This is a fertile sand and required a minimum of cultivation in the first few years. The 1900-19 average price per acre was $23.85, which was slightly higher than the price paid for the land on the Vulcan Fine Sandy Loam. However, when the later productivity of the soil became better known and continued cropping reduced yields, the price per acre dropped to $12.02 for the 1920-35 period. Only one sale as high as $30 per acre was reported for the 1930-35 period and this was on a bushelage basis For the long-time average of 1900-35, the land sold at an average figure of $17.11 per acre on the same soil type which was considerably lower than the price paid on the other soil types.

Only the purchases on the Vulcan loam and Blackspring silt loam showed an increase in purchase price for the 1920-35 period when compared to 1900-19 average, the most decided increase being on the Vulcan loam due in some measure to its proximity to the town of Vulcan.

No such increases were noted for the Lomond district as figures in Table 7 indicate. All purchases were at a much lower average price per acre for the 1920-35 period when compared to the 1905-19 average. Adjustment to lower farm prices and low yields is gradually being made through decreased land values.

Land Credit.—The purchase of land has been an important factor in the extension of credit to farmers of the prairies. Many farmers with only a minimum of net worth assumed heavy obligations through the purchase of land on agreements of sale. The amounts of indebtedness for which the land was security will be presented in another article on farm indebtedness, in which will be presented the proportionate amounts of cash and credit involved in the purchase of land by the operators.

Table 8 summarizes the percentage of cash payments for both districts. Two-thirds of all transactions carried cash payments of 50 per cent or less in the Vulcan district as compared with a little over two-fifths of the Lomond transactions. The absolute amount of cash payments was much less in the latter district.

TABLE 8.—DISTRIBUTION OF PERCENTAGE CASH PAYMENTS ON LAND PURCHASES IN THE VULCAN AND LOMOND DISTRICTS OF ALBERTA, 1900-1935

Percentage of cash paid	Vulcan District		Lomond District	
	Number of purchases	Cumulative percentage	Number of purchases	Cumulative percentage
	number	per cent	number	per cent
0– 10	39	14	47	14
11– 20	69	38	36	25
21– 30	36	51	42	37
31– 40	29	61	15	41
41– 50	15	67	10	44
51– 60	15	72	21	50
61– 70	6	74	9	53
71– 80	5	76	3	54
81– 90	1	76	1	54
91–100	67	100	155	100
Total	282	....	339	....

Of the 282 transactions in the Vulcan district, 67 or 24 per cent were all cash deals, and only 16 or 6 per cent made no cash payments at the time of purchase. In the Lomond district, of the 339 transaction, 154 or 45 per cent were all cash deals, and 27 or 8 per cent made no cash payment at the time the purchase was made. The larger proportion of cash deals in the Lomond district was due to the smaller amounts of money required to complete cash deals.

Recent Developments in Buying Land.—Within the last few years, and particularly in the Lomond district, there has been a trend toward buying land on a bushel basis. Apparently the purchasers of land have resorted to this type of contract in order to allow for the fluctuation of wheat prices from year to year. The details of the contract vary, but an example may be cited here to illustrate the type of agreement that is made. A purchase of 320 acres of land was made for 8,000 bushels of wheat—payments to be one-third of crop until paid in full, the original bushelage contract including whatever interest the seller had calculated. The purchase price ranged from 5 bushels per acre to 31 bushels for the Lomond district and from 18 to 47 bushels in the Vulcan[1] district.

This change in the type of sale contract is indicative of the trend toward adjusting land values to the productivity of the soil, but more especially to minimize the risk involved in the values of wheat from year to year and period to period. It is merely a shifting of more of the risk to the vendor of land.

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[1] This has been calculated for the tables on present value basis of 83 cent wheat amortized for 20 years at 6 per cent.

TRENDS IN LAND TENURE IN CANADA

S. C. Hudson

Beginning with the Seigneurial system under French rule, land tenure in Canada has passed through several well defined stages to arrive at what is generally considered a system of owner-operated farms. Under French rule, the ownership of all land was vested in the crown, large tracts being granted to favoured noblemen in return for certain services. These seigneurs in turn, subdivided their holdings among the habitants who tilled the soil and paid such dues as was demanded of them by their seigneur, payment generally being made in kind. Other systems of tenure tried included the quit-rent system which was introduced from the Eastern States, leasehold from the crown, leasehold from the clergy and leasehold from private individuals. Increasing demand for democratic rights both in government and land tenure led to the adoption of land policies which have facilitated and promoted ownership. Such a policy has been continued in various forms for almost a century. So strong is the feeling that a system of owner-operated farms is essential to the stability of the agricultural industry and the economic well-being of a nation that in recent years in Canada, as in many other countries, legislation was passed providing for debt adjustment and moritoria in order that farmers might be aided in retaining possession of their farms.

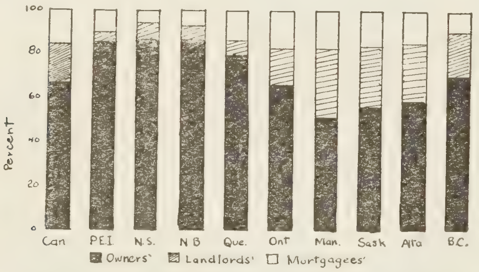

Chart I. Distribution of Equity in Farms by Provinces, 1930.

Since the outstanding feature of the Canadian land tenure system is the owner-operated farm, it is interesting to examine the equity of owner-operators in the farm land of Canada. As shown in Chart I the equity of owner-operators in Canadian farms in 1930 amounted to about 67 per cent, that of landlords 17 per cent and mortgagees 16 per cent[1]. By provinces the owner-operator's equity varied from about 86 per cent for the three Maritime Provinces to 51 per cent for Manitoba. The change in the distribution of equity in the farm land of the Prairie Provinces between 1930 and 1935 is shown in Chart II. Whereas in 1930 the equity of owner-operators amounted to 56 per cent for the three Prairie Provinces, in 1935 it had dropped to 40 per cent. This decrease in owners' equity was taken up by the mortgagees whose equity increased from 16 to 26 per cent and by the landlords class which controlled 34 per cent of the investment in farm real estate in 1935 compared with 28 per cent in 1930. This downward trend in the proportion of the value of farm property actually belonging to owner-operators is the principal problem in land tenure in Canada at this time. During a depression such as was experienced between 1929 and 1933 in all lines of activity expenses must be cut to a minimum in order to balance a reduced income. Any industry such as farming which has a relatively high proportion of fixed costs must meet its obligations from savings or suffer liquidation. This is more particularly true in areas devoted to specialized crops such as wheat in Western Canada since in addition to involving a high cash outlay they are less self-sufficient from the standpoint of meeting their own needs. This fact along with the occurrence of drought and depression at the same time is largely responsible for the present tenure situation in the Prairie Provinces.

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[1] Approximate only. Owner-operators' equity in farms in Canada calculated by subtracting mortgage indebtednes from value fully owned farms and dividing result by value of all land and buildings less calculated value of owned portion of partly-owned farms. In calculating value of owned portion of partly-owned farms the average value per acre of all farms was multiplied by acres owned.

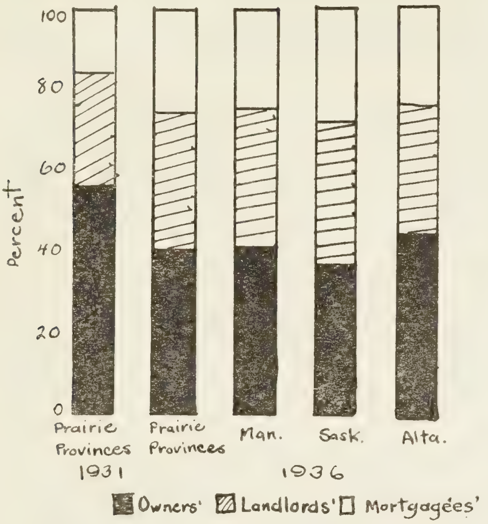

Chart II. Distribution of Equity in Farms in the Prairie Provinces, 1931 and 1936.

TABLE I.—PERCENTAGE DISTRIBUTION OF FARMS ACCORDING TO TENURE STATUS BY PROVINCES, 1901-1936

Year	Tenure Status	Canada	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
1901	Owned	87·0	94·1	96·3	94·2	89·8	79·8	88·9	96·1	95·8	80·2
	Partly owned	4·4	3·1	1·3	2·5	4·1	5·9	6·1	2·3	2·0	4·5
	Rented	8·6	2·8	2·4	3·3	6·1	14·3	5·0	1·6	2·2	15·3
	Total	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1911	Owned	88·5	95·5	95·3	94·6	92·2	82·1	83·4	90·6	92·0	85·6
	Partly owned	3·6	1·6	0·8	1·5	2·0	4·2	6·2	5·7	4·2	3·2
	Rented	7·9	2·9	3·9	3·9	5·8	13·7	10·4	3·7	3·8	11·2
	Total	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1921	Owned	86.5	95·6	96·1	96·1	94·9	85·2	82·0	77·6	80·3	86·3
	Partly owned	5·6	2·4	1·8	1·7	1·8	4·6	6·7	11·6	10·0	4·4
	Rented	7·9	2·0	2·1	2·2	3·3	10·2	11·3	10·8	9·7	9·3
	Total	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1931	Owned, mortgage free†	51·7	62·4	84·4	77·3	63·4	48·3	42·0	35·6	43·9	60·5
	Owned, mortgaged	28·7	31·6	9·8	16·6	29·6	33·6	27·9	30·7	29·0	21·4
	Partly owned	9·4	4·2	3·1	3·4	3·2	6·9	11·8	18·2	15·0	7·1
	Rented	10·2	1·8	2·7	2·7	3·8	11·2	18·3	15·5	12·1	11·0
	Total	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1936*	Owned, mortgage free†	24·2	....	....	....	....	....	33·8	17·0	28·8	....
	Owned, mortgaged	40·1	....	....	....	....	....	33·8	43·7	38·5	....
	Partly owned	16·7	....	....	....	....	....	11·8	18·9	16·5	....
	Rented	19·0	....	....	....	....	....	20·6	20·4	16·2	....
	Total	100·0	....	....	....	....	....	100·0	100·0	100·0	....

*Total for three Prairie Provinces only. †Data available 1931 and 1936 only.
Source: Census of Canada 1901, 1911, 1921, 1931 and 1936.

Turning to the distribution of farms according to tenure status (Table I) we find that in 1930 for Canada as a whole, 80 per cent were fully owned while the remainder were almost evenly divided between partly owned and rented. Of those that were fully owned, 52 per cent were reported free from mortgage debt while 29 per cent were mortgaged. In 1901, on the other hand, 87 per cent of the farms were owned, 4 per cent partly owned and nearly 9 per cent rented. This increase in the proportion of partly-owned farms was spread over all provinces except Quebec.

One of the most common means of increasing the size of a farm business is to rent a neighbouring farm. That extensive use has been made of this method is shown by the fact that between 1921 and 1931, there was a greater proportional increase in land area falling in that tenure class than in number of farms, indicating a more rapid growth in size of farm within the partly-owned group. (Table 2).

TABLE II.—PERCENTAGE DISTRIBUTION OF LAND IN FARMS ACCORDING TO TENURE STATUS BY PROVINCES, 1921-1936

Year	Tenure status	Canada	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
1921	Owned	78·6	95·2	96·6	96·1	95·2	84·9	75·7	70·5	71·4	79·2
	Partly owned	12·1	3·1	2·0	2·1	2·2	6·3	10·8	18·1	17·9	10·5
	Rented	9·3	1·7	1·4	1·8	2·6	8·8	13·5	11·4	10·7	10·3
	Total	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1931	Owned, mortgage free†	37·4	60·1	82·4	72·9	60·4	47·8	31·6	25·4	30·0	48·8
	Owned, mortgaged	27·7	32·9	11·9	19·8	32·1	33·3	29·1	28·6	24·0	18·0
	Partly owned	22·4	5·8	3·8	5·0	4·5	9·8	19·9	31·1	30·7	23·5
	Rented	12·5	1·2	1·9	2·3	3·0	9·1	19·4	14·9	15·3	9·7
	Total	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1936*	Owned	49·4	....	....	....	....	....	58·3	48·0	47·8	....
	Partly owned	31·8	....	....	....	....	....	19·9	33·0	34·8	....
	Rented	18·8	....	....	....	....	....	21·8	19·0	17·4	....
	Total	100·0	....	....	....	....	....	100·0	100·0	100·0	....

*Total for three Prairie Provinces only. †Data available 1931 only.
Source: Census of Canada, 1921, 1931 and 1936.

TABLE III.—PERCENTAGE DISTRIBUTION OF FARMS IN CANADA ACCORDING TO FORM OF TENANCY BY PROVINCES, 1921-1931

Year	Form of tenancy	Canada	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
		p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1921	Cash	51·4	60·3	92·3	92·5	78·3	80·0	24·5	13·5	30·1	75·4
	Share	48·0	32·1	2·3	4·2	21·1	19·5	74·8	86·3	69·6	32·5
	Part cash-part share	0·6	7·6	5·4	3·3	0·6	0·5	0·7	0·2	0·3	0·1
	Total	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1931	Cash	46·2	88·0	93·4	91·3	79·1	82·9	24·7	13·5	22·7	86·5
	Share	52·8	11·1	6·2	8·6	20·5	16·5	72·7	85·4	76·3	13·4
	Part cash-part share	1·0	0·9	0·4	0·1	0·4	0·6	2·6	1·1	1·0	0·1
	Total	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0

Source: Census of Canada 1921-1931.

Comparing the proportion of all farms in each tenure status for the different provinces of Canada great variation is noted. While in Prince Edward Island

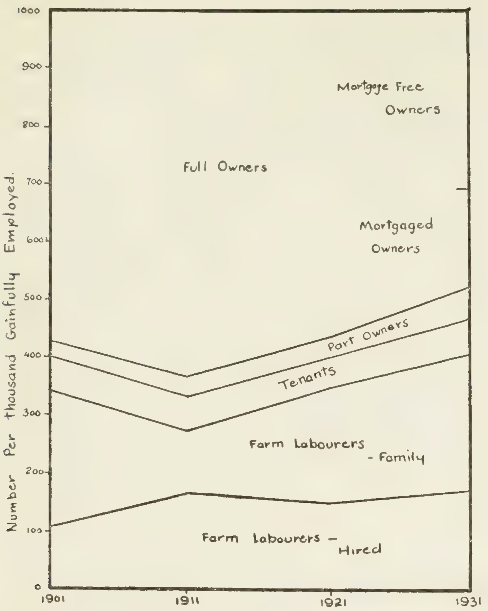

Chart III. Number in each tenure class per 1,000 gainfully employed in agriculture in Canada, 1901-1931.

less than 2 per cent of the farms were rented in 1930, in Manitoba over 18 per cent of the farms were operated by tenants. In the Maritime Provinces and Quebec, tenancy has never attained important proportions. Apart from the partly-owned-partly-rented group in which slight increases occurred, between 1901 and 1931 the proportion of all farms in the Maritime Provinces which were rented decreased, while for the Province of Quebec a decrease occurred both in partly-owned and rented farms. Farm tenancy in Ontario and British Columbia is of almost equal importance, 11 per cent of all farms being rented in 1930 and 7 per cent partly owned. This represents a slight decrease from earlier periods. The Prairie Provinces, however, present a different situation. Although in 1901 only about 3 per cent of the farms were rented, by 1936 almost 20 per cent were in this class. A similar increase occurred in partly-owned land making these provinces by far the most important from the standpoint of tenancy.

The relative importance of different forms of tenancy is shown in Table 3. Between 1920 and 1930 a slight increase occurred in share leases relative to those on a cash basis. In 1930, 53 per cent of the farms rented were leased on a share basis while 46 per cent were leased for cash and 1 per cent were on a part cash and part share basis. The distribution of the different forms of lease between provinces indicates a wider use of the share basis of renting in crop farming areas where the risk is generally higher, 85 per cent of the rented farms being on share basis in Saskatchewan, 76 per cent in Alberta and 73 per cent in Manitoba. In the Eastern Provinces and British Columbia, on the other hand, the cash lease predominates.

In an established agricultural area, farm ownership may be attained through inheritance or purchase. In most cases if a young man desires to farm he must work as a farm labourer for a term of years, either at home as an

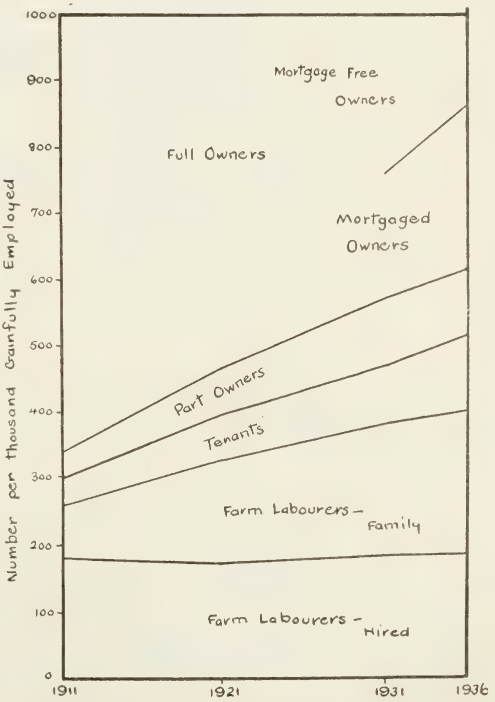

Chart IV. Number in each tenure class per 1,000 gainfully employed in Agriculture in the Prairie Provinces, 1911-1936.

"unpaid" family labourer or elsewhere as a hired man, until he has accumulated sufficient capital to enable him to make the necessary down payment on a farm, stock and equipment. A more common method is that of accumulating sufficient capital to rent a farm while a member of the farm labourer group and remaining a tenant until in a financial position to purchase. This process which is generally referred to as the agricultural ladder is shown in Charts 3 and 4 for Canada and the Prairie Provinces for the periods 1901 to 1931 and 1911 to 1936, respectively. While during the period 1901 to 1911 it would appear that for Canada as a whole, progress along the agricultural ladder was increasing in rapidity as evidenced by the higher proportion of full-owners, the period since 1911 has been one of retarded progress. This is particularly true in the case of the Prairie Provinces where although in 1911, 660 out of every 1,000 gainfully employed in agriculture were owners, by 1936 less than 400 out of every 1,000 were farm owners. Such an accumulation of workers in the labourer brackets of the agricultural ladder can be eliminated only through migration to other industries or by improved conditions which will facilitate movement toward their ultimate goal which is farm ownership. While the most essential condition to bring about such a change is continued and lasting improvement in the economic position of agriculture, improved tenancy and farm credit conditions are only slightly less important.

PRODUCERS RETURNS FROM SALES OF FRUITS AND VEGETABLES ON CONSIGNMENT TO TORONTO COMMISSION MERCHANTS

W. C. Hopper

In connection with the survey of the marketing and distribution of fresh fruits and vegetables conducted in 1936 in Toronto information was obtained respecting returns obtained by producers in different districts of Ontario for commodities sold on consignment. From representative samples of consignment sales of various products on which transportation was paid by the commission merchant the figures shown in Table 1 were compiled. It was possible to obtain these data through the co-operation of commission merchants who permitted the examination of their books.

Table 1—Net Returns to Producers in Different Districts of Ontario from Fresh Fruits and Vegetables Sold on Consignment in Toronto in 1935

—	District			
	Burlington	Niagara	Leamington	Northern Ontario
	cents	cents	cents	cents
Net return at farm or shipping point	78·7	78·0	72·1	65·4
Transportation, express, boat or truck	7·4	8·1	14·1	21·7
Handling commission or charge	1·4	1·4	1·4	0·9
Selling commission	12·5	12·5	12·4	12·0
Wholesale selling price	100·0	100·0	100·0	100·0

The net returns decreased from 78·7 cents for each dollar of sales to shippers located in the Burlington district to 65·4 cents to shippers located in Northern Ontario. The differences in returns for the districts shown were almost entirely the result of differences in transportation costs as the distance from the market increased. In the case of blueberries from Northern Ontario the handling charges were only 0·9 cents per dollar of sales. The handling charge was a rate per package and blueberries are a fairly high priced article relative to other products.

ECONOMIC LITERATURE

ELEMENTS OF FARM MANAGEMENT, John A. Hopkins, Ph.D., Associate Professor of Agricultural Economics, Iowa State College. Prentice Hall, New York. 390 pages and index.

Professor Hopkins has prepared a text book for students of farm management which by its conciseness and readable presentation should prove of great value not only to students but to all who are interested in the field of Farm Management. In his introductory chapter the author states the economic problem of the farmer is that of obtaining the greatest possible return from his resources. He suggests that the solution to the problem has two phases "(1) the efficient operation of the farm itself and (2) provision for the most satisfactory and profitable arrangements with persons in businesses outside the farm." In the succeeding chapters of his book the author brings together the principles which lie behind these two phases of the solution to the farmer's problem.

Summarizing the chapters dealing with the questions of specialization or diversification and the choice of enterprises, the writer advances these main principles. "(1) From each group of competing enterprises, select that enterprise which promises the greatest net return from the farm as a whole. (2) Combine with the main enterprise whatever complementary enterprises are needed to provide outlets for crops or to furnish sources of materials or services needed either by live stock or crops, and (3) finally, in order that any labour or other resource which is not being fully used by these enterprises can be made to contribute to the income, select as a supplementary enterprise some enterprise which will utilize it."

The second main section of this book is headed, "Organizing the farm and the Farmer's Resources." Here the steps leading to successful organization of the farms are discussed, including the inventory, the farm budget, the principles of diminishing physical output and of diminishing economic returns. Farm records provide the operator with a means of checking the results of his budgetary plan and permit him to improve his technique from year to year. Dr. Hopkins illustrates his points by frequent use of farm management results, taken chiefly from Iowa farm records.

One section of the book is devoted to a discussion of the crop system on a farm, and one to the livestock system. These sections deal with the factors to be considered in determining the size of these enterprises in relation to the available amount of land, labour and capital. Detailed records are presented to show the physical requirements necessary to produce the various crops and classes of live stock. This kind of information is all a part of the development of a satisfactory farm budget.

Another chapter of the book is devoted to the efficient use of labour. Discussing labour as a limiting factor in farm operations Dr. Hopkins states that "The farmer should be concerned not about whether there is a scarcity of labour, but which jobs should be done and which left undone at prevailing farm prices and wage levels." One aspect of the farm labour problem that is frequently overlooked is that of selecting a hired man suited for a particular type of work on the farm, and the importance of this is stressed by the author. Another important feature is that of planning the farm work in such a way that the hired help will be kept busy continuously.

To complete the picture and tie in the problems of production with those of marketing, the writer has included chapters dealing with co-operation, financing and marketing. In the chapter on co-operation, consideration is given to the exchange of labour among farmers, the co-operative ownership of farm machinery and to farmers' co-operative marketing organizations. One of the most interesting forms of such organizations is the co-operative farm management association where one to two hundred farmers collectively employ a trained farm management specialist to supervise and analyse their records.

The chapter on financing the farm business is full of sound and practical advice. The four desirable characteristics of a loan suggest that the term of the loan should generally not exceed the probable life of the asset purchased nor require repayment faster than the purchased asset will permit. Regular amortization payments of principal should be arranged for long term loans, and with short ones the contract should be such that larger payments can be made whenever the farmer has extra funds available.

The concluding chapter is on farmers' market contacts and discusses the adjustment of the farmers' economic organization to ruling business conditions, the economical purchase of supplies and the disposal of farm products at maximum prices.

Dr. Hopkin's book is excellently illustrated, contains numerous tables, diagrams and maps and at the end of each chapter is a bibliography of other literature on the subject matter discussed. The author has contrived to cover a very wide field in a comparatively short space and in doing so has managed to touch upon the major principles of farm management in a most agreeable and readable manner.

NOTES

Further plans to assist agriculture in the United Kingdom include an extension of the acreage on which the subsidy under the Wheat Act, 1932, will be paid; a subsidy scheme to growers of oats and barley who are not benefiting under the Wheat Act and, with a view to improving the fertility of the soil, farmers using basic slag or lime on their land will receive assistance in the purchase of these fertilizers. Farm drainage, pasture improvement and the eradication of animal diseases are to receive special attention.

In 1936 Denmark and New Zealand were the leading exporting countries of butter, supplying between them nearly half of the world's imports. The United Kingdom was the leading importing country, with Germany second.

The fifth meeting of the International Conference of Agricultural Economists will be held at Macdonald College, August 21-28, 1938. Macdonald College is situated at Ste. Anne de Bellevue, Quebec, twenty-five miles west of Montreal. Dr. J. E. Lattimer, Macdonald College, is Chairman of the Canadian Committee on arrangements for the Conference. The Secretary is J. Coke, Economics Branch, Department of Agriculture, Ottawa.

The Dairy News Letter for September reports that there was a decrease of 1·6 per cent in butter production in Canada during the first eight months of 1937. In Ontario, there was a decline of 2·9 per cent, while in Quebec the decrease amounted to 4·4 per cent. Prince Edward Island showed a 10 per cent increase whereas British Columbia had a 10 per cent decrease. Production in Manitoba was 9·5 per cent higher and Saskatchewan and Alberta experienced slight reductions.

The Economics Branch of the Dominion Department of Agriculture is conducting a study of Land Settlement in Northern Quebec and Northern Ontario. Settlers are being interviewed and details of their progress are being secured. Both the more recently settled areas and those established fifteen to twenty years ago are being visited.

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The
ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
OTTAWA

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ECONOMIC SITUATION

The Situation in Canada.—The recession in wholesale commodity prices which began in the second week of June continued throughout October and the general commodity index for the last week of the month was 84·4. This is about 10 per cent higher than the index of a year ago. Practically all groups included in the general index moved lower. The October index of prices of Canadian farm products was approximately the same as for September; the field products index advanced and that of animal products declined. Wheat prices fluctuated considerably during the two months. The average September price of No. 1 Manitoba Northern cash wheat was 133·6 cents a bushel, and the average October price, 142·3 cents a bushel. Average livestock prices during September declined slightly in face of an over-supply. A temporary price revival early in October again brought overloaded markets which, together with a break in prices in the United States, reduced average monthly prices considerably.

The index of retail prices, rents and costs of services rose from 83·7 in September to 84·2 in October owing to advances in foods, fuel and rentals. Certain revisions of this index have been made by the Dominion Bureau of Statistics and the necessary amendments have been made in the table of index numbers on page 82. The value of retail sales during September show an increase of 7·7 per cent over the figures for September, 1936. The adjusted index at 81·0 was only fractionally lower than for June, the high month for the year and just above that of 80·9 in December, 1936. An estimate of the tourist traffic for the first eight months of the year shows an increase of visitors of 14·5 per cent over the parallel period of 1936 and it is calculated that the value of this traffic to Canadian business is about 18 per cent greater than in 1936.

Considerable improvement in unemployment during the last twelve months is indicated by preliminary reports of relief recipients. In September, 1937, 468,114 individuals including 101,768 heads of families were receiving material aid compared with 152,946 heads of families and a total of 722,515 persons in September, 1936. This represents a decrease of 33·5 per cent in the number of heads of families and a decline of 35 per cent in the total number of individuals assisted. The figures exclude farm operators in the drought areas.

The Situation in Australia.—Improved economic conditions are reflected in figures issued by the Commonwealth Statistician. The value of imports for the quarter ending June 1937, shows a gain of 11½ per cent over the corresponding quarter of 1936 and the increase was well distributed among various classes of commodities. Exports increased in value during the same period by 15 per cent and practically all agricultural products shared in the gain. Wool, wheat, butter, raisins, beef, lamb and mutton were shipped in greater quantities during the three-month period, when compared with a year ago, but for the

Annual and Monthly Index Numbers of Prices and Production Computed by Dominion Bureau of Statistics

Year	Wholesale Prices 1926 = 100				Retail prices and cost of services (5)	Production (6) 1926 = 100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·4	57·1	73·9	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·7	112·3	114·4	82·7	141·3
1936									
Sept....	76·4	74·4	74·2	74·7	81·1	120·0	123·9	116·6	136·7
Oct....	77·1	76·3	76·4	76·2	81·1	121·5	125·5	90·3	145·9
Nov...	77·2	77·1	75·6	79·5	81·4	118·5	121·7	72·7	158·3
Dec....	79·7	82·4	83·4	80·8	81·7	118·4	121·1	51·0	153·5
1937									
Jan.....	81·3	86·0	88·3	82·1	81·8	116·9	119·4	42·0	162·5
Feb....	82·9	87·0	89·6	82·6	81·9	115·0	117·7	31·4	170·0
Mar....	85·5	90·0	93·4	84·2	82·2	118·7	122·4	37·3	178·6
April...	86·1	91·4	94·4	86·3	82·4	124·0	128·8	62·3	174·3
May....	85·1	87·8	89·0	85·7	82·9	122·0	126·1	53·1	189·3
June....	84·6	83·7	85·1	81·4	82·9	126·0	130·6	29·3	174·1
July....	87·5	92·5	97·7	83·9	83·2	126·5	130·9	45·7	148·2
Aug.....	85·6	84·9	84·6	85·5	83·8	123·4	127·2	57·6	139·9
Sept....	85·0	86·1	84·8	88·4	83·7	123·8	127·5	86·1	136·3
Oct.....	84·7	86·4	86·3	86·5	84·2	127·4	132·6	55·3	137·2

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1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1935, p. 17.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1935, p. 53, and Monthly Mimeographs 1936 and 1937.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100.

Prices and Price Indexes 1913-1935, p. 117, and Monthly Mimeographs, 1936-1937.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

Yearly index numbers for 1936, subject to revision.

Production indexes for 1936 were revised due to changes in the seasonals to reflect the influence of recent years. Other alterations were the addition of the output of creamery butter and the substitution of the production of factory cheese for cheese exports.

year ending June 1937, wheat and butter exports declined owing to smaller shipments during October 1936, to March 1937, period. The cost of living index increased about half of one per cent during the first half of the year and the index of wholesale prices in Melbourne advanced 1·2 per cent. The percentage of trade union unemployment which was 12·8 per hundred in June 1936, had declined to 9·7 in June 1937.

The Situation in New Zealand.—Exports for the twelve months ending August 1937, show an increase of 19·3 per cent over the figures for 1936 and imports increased 32·0 per cent. The exports for August increased 41·5 per cent and imports 50·3 per cent over the 1936 figures for the same month. Improved business activity is reflected in increased note circulation, sales tax collections, railroad and shipping traffic and motor car registrations. The number of unemployed males declined by 28·4 per cent between July 1936 and July 1937. The wholesale price index (1909 — 13 = 1000) stood at 1409 in August 1936, and 1525 in August 1937, an advance during the year of 8·2 per cent. In the same period the retail index (all groups 1926 — 30 = 1000) advanced 6·6 per cent from 870 to 927 while the index of foods increased 8·9 per cent from 878 to 956.

The Situation in Denmark.—Although foreign trade in Denmark shows improvement, the country is much hampered by difficulties of foreign exchange. While Norway and Sweden have profited by the recent increased demand for timber and iron, Denmark, being largely an agricultural country, is facing a restricted demand for her products, especially for bacon and butter on the British market. Although Germany is taking an increasing quantity of Danish produce, imports from that country are not the raw materials Denmark needs, but unwanted finished articles she could readily produce at home. This condition is causing a steady rise in unemployment, particularly in the secondary manufacturing industries, which increased from 12·3 per cent in August 1936, to 15·0 per cent in August 1937.

Conditions in Argentina.—Overseas trade showed great improvement during the first six months of 1937. On a quantity basis imports increased 19·1 per cent over the figures for the first half of the preceding year and exports increased by 100 per cent. Exports of cereals and linseed more than doubled and live stock products rose in volume by 15,700 tons or 2·4 per cent. The first official estimate of the area seeded to wheat for the 1937-38 season is 17,586,400 acres, exceeding the previous year by 91,000 acres.

Conditions in United Kingdom.—The monthly price index of agricultural produce (1911 — 13 = 100, adjusted for wheat and cattle payments) rose from 136 in August 1937 to 142 in September. The increase was almost entirely due to new contract prices of liquid milk. Net imports during September amounted to £82·6 million compared with £67·6 million in September 1936. Exports were £44·3 million in September 1937 and £37·0 million in September 1936. Wholesale prices rose about 10·4 per cent during the twelve months ending September. The average of industrial production for April-June was 134·7, the base year being 1930.

WHOLESALE FRUIT AND VEGETABLE DISTRIBUTION

Costs incurred by wholesale dealers in the distribution of fresh fruit and vegetables are now being studied by the Agricultural Economics Branch. This study was undertaken at the request of the Canadian Fruit and Vegetable Jobbers' Association but was extended to include all wholesalers operating on the markets visited. Fresh fruits and vegetables are highly perishable and must be turned over rapidly and usually on a narrow margin. It is intended to show comparative costs between dealers on the same market and between different markets. It is hoped that such a study will be of assistance to the firms co-operating in the efficient conduct of their businesses. During the past few months information has been obtained from ninety firms operating on some of the principal markets and located from coast to coast. These data are now being analyzed and tabulated in Ottawa and will be the subject of a report at a later date.

AGRICULTURAL AND LAND ORGANIZATION IN SOUTHERN ALBERTA*

G. H. Craig

Utilization of Land.—The material which follows will be presented with the object of defining the intensity of the use of land from the western side of the Vulcan district to the eastern side of the Lomond district. The major difference between the agriculture of the two districts was in the relative application of labour and machinery to land. In the Vulcan district generally it was apparent that the farm operator spent more time and used more equipment per acre with profit than did the farmer on the lighter soil in the Lomond district. The same applies to the individual soil classes within each district. The application of labour and capital to land was greater on the silt loams than on the fine sands. To decide the amount of these factors to combine with his land unit was the chief problem confronting the operator.

Size of Farm and Land Use.—The southern dry area of Alberta is essentially one of relatively extensive farming practices as contrasted with the more intensive mixed farming of the central and northern section of the Province. Only those enterprises which required the use of much land in relation to labour and capital were found in the south. This extensive use of land is one which lends itself very well to the production of wheat or of sheep or horses. The natural factors of precipitation, soil and climate were found to be such that very intensive use of the land was decidedly unprofitable. The contrast, however, is between the northern sections of the province and the prairie region of the south. Within the prairies are to be found fairly distinct farm practices judged by the criterion of intensity[2]. The lesser value of the Lomond land and its lighter nature were responsible for a system economizing labour and capital. The first few years of settlement proved that the Lomond district could not be worked as intensively as that of Vulcan and as a consequence farms increased more in size and, except for prosperous times, much less machinery and labour was used on them.

Table 1.—Distribution of Farms According to Size of Farm for the Vulcan-Lomond Area of Alberta 1935

Occupied quarters	Vulcan		Lomond	
	No. of farms	Per cent	No. of farms	Per cent
1	10	4	8	3
2	49	21	46	18
3 and 4	82	36	103	39
5 and 6	49	21	54	21
7 and 8	21	9	29	11
9 and over	21	9	21	8
All farms	232	100	261	100

Figures on size of farm give some indication of the relatively extensive manner in which land was operated. The average size of farm in the Vulcan area was 726 acres and that of Lomond was 753 acres. When lease-land is added to these figures, the totals become 758 and 889 acres, respectively. The average farm in Alberta as a whole was 400 acres.[2] The most common size of farm for both Vulcan and Lomond districts was that of three or four quarter-sections (see Table 1). A slightly larger proportion of the farms were found on a full section or less, than on farms of over one section. Very few (4 per cent) in Vulcan and (3 per cent) in Lomond were found on only one quarter-section, or 160 acres. Some farmers operated as much as 7 sections or 4,480 acres, which was considered a very extensive holding. The specialized type of farming and the nature of the machinery used for wheat farming made such large units practicable in this area. In more intensively farmed areas they are seldom found.

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*This article is an excerpt from an unpublished report on "An Economic Study of Land Utilization in the Vulcan-Lomond Area in Southern Alberta".

(2) Census of Alberta, 1931.

Tables 2 and 3 will serve to point out the degree of specialization which was carried on in these two wheat areas. Wheat and summer-fallow accounted for 75 per cent of the occupied acreage in Vulcan and for 49 per cent in Lomond. Considering the fact that wheat and summer-fallow land were both used in the production of wheat, and also that only 85 per cent of the land was improved in Vulcan and 66 per cent in Lomond, it is easily recognized how large a part this one commodity plays in the utilization of land in these prairie areas.

TABLE 2.—AVERAGE DISTRIBUTION OF LAND USE ACCORDING TO SIZE OF FARM IN THE VULCAN DISTRICT OF ALBERTA, 1935

—	1	2	3 and 4	5 and 6	7 and 8	9 and over	All farms	Per cent of total occupied
Number of farms	10	49	82	49	21	21	232	232
	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(%)
Wheat	81	131	240	399	500	777	316	43
Oats	7	21	23	26	45	70	29	4
Rye	2	2	6	8	16	22	8	1
Barley	4	1	2	6	9	15	5	1
Legume and grasses	3	2	2	4	3	4	2	‡
Idle cropland	....	9	6	17	36	8	11	2
Summer-fallow	31	88	174	298	364	611	232	32
Other improved	7	12	10	14	21	45	16	2
Total improved	135	266	463	772	994	1,552	619	85
Wild pasture	20	33	58	78	180	375	95	13
Permanently idle	....	5	10	2	2	1	5	1
Waste	5	6	5	6	16	2	7	1
Total unimproved	25	44	73	86	198	378	107	15
Total occupied	160	310	536	858	1,192	1,930	726	100
Leaseland	....	3	2	7	30	297	32	
Total farm area	160	313	538	865	1,222	2,227	758	

‡ Less than 0·5%.

An interesting fact brought to light by Tables 2 and 3 is the much greater proportion of improved land in Vulcan than in Lomond. The Lomond farmers required larger acreages of wild pasture to maintain their work horses and live-stock. This accounted for some of the difference, although the permanently idle or eroded land was responsible for a larger proportion of unimproved acreage in Lomond than in Vulcan.

The operators of the smaller farms, in an attempt to gain some income, had larger proportions of their acreages in wheat than those on the larger farms. As a consequence, the smaller farms had the lesser percentage in summer-fallow. The occupied farm land in the Vulcan district was only slightly less than that in Lomond but leaseland was more easily obtained in the latter district.

Table 3.—Average Distribution of Land Use According to Size of Farm in the Lomond District of Alberta, 1935

Quarters occupied	1	2	3 and 4	5 and 6	7 and 8	9 and over	All farms	Per cent to occupied
Number of farms	8	46	103	54	29	21	261	261
	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)	(%)
Wheat	56	110	184	281	367	561	237	32
Oats	4	14	17	21	31	28	20	3
Rye	7	11	13	41	39	97	28	4
Barley	....	2	1	1	1	1	1	*
Legumes and grasses	....	*	*	*	1	....	*	*
Idle Cropland	5	35	54	89	121	200	75	10
Summer-fallow (1)	25	43	100	124	204	381	126	17
Other improved	3	5	3	7	8	12	7	*
Total improved	100	220	372	564	772	1,280	494	66
Wild pasture	60	89	178	282	333	655	236	31
Permanently idle	....	4	8	10	72	81	20	3
Waste	....	5	....	1	11	9	3	*
Total unimproved	60	98	186	293	416	745	259	34
Total occupied	160	318	558	857	1,188	2,025	753	100
Leaseland	80	38	65	181	110	640	136	
Total farm area	240	356	623	1,038	1,298	2,665	889	

(1) Also a small amount of breaking included.
* Less than 0·5%.

Soil and Land Use.—The influence of soil on the use of land is brought out by Table 4. In the Vulcan district, variations in occupied acreages were not very great between the various soil belts but the proportion of land improved showed some interesting contrasts. In the least productive Carmangay fine sand the improved acreage was only 486 acres as compared with the loam, silt loams and fine sandy loam each of which had approximately 650 acres of improved land. The clay loam was intermediate between these two extremes. Much the same relationship was found between the fine sand in the Lomond district and the other soils with a less striking contrast.

Of further interest was the difference in the proportion of land in summer-fallow. In the Vulcan district on the fine sand farms only 21 per cent of the occupied acreage was in summer-fallow as compared with approximately 33 per cent in all other soil belts. In the Lomond district on none of the soil belts was there more than 28 per cent in summer-fallow with only 6 per cent on each of the fine sand and fine sandy loam. Idle crop land accounted for some of the difference since those soils with the least summer-fallow had also the most idle cropland. Land permanently idle from erosion was also greatest where the summer-fallow was least. The small amount of summer-fallowing done on the least productive soil was due to two factors: soil drifting was a greater problem and therefore increased the cost and decreased the effectiveness of the summer-fallow; and the extremely low yields and unprofitable returns lowered the power and machinery capacity of these farmers to such an extent that only a limited amount of land could be worked.

Tenure and Land Use.—In both districts the largest farms were operated by those who owned a part of their land and also rented a part (Table 5). Owners in Vulcan had slightly smaller farms than the tenants but the opposite was true of the Lomond district where the purchase price of land was lower and straight renting was not so common.

TABLE 4.—AVERAGE DISTRIBUTION OF LAND USE ACCORDING TO SOIL TYPE IN THE VULCAN AND LOMOND DISTRICTS OF ALBERTA, 1935

Soil type	No. of farm	Wheat	Oats	Barley	Rye	Legumes and grasses	(1) Summer fallow	Idle	Improved pasture	Farm stead	Total improved	Wild pasture	Permanently idle	Waste	Total unimproved	Total occupied	Lease land
	no.	ac.	ac.	ac.	ac.	ac.	ac.	ac.	ac.	ac.	ac.	ac.	ac.	ac.	ac.	ac.	ac.
Vulcan District:																	
Backspring Silt L.......	21	339	30	5	3	1	258	......	7	6	649	88	....	6	94	743	....
Vulcan Fine Sandy L...	17	331	22	1	22	1	242	6	7	5	637	45	6	5	56	693	....
Vulcan Silt L...........	75	338	31	7	2	2	251	4	9	8	652	108	*	2	110	762	43
Vulcan Loam...........	52	374	30	4	2	2	251	*	7	7	677	46	....	4	50	727	....
Vulcan Clay L..........	28	274	28	6	12	2	238	4	7	6	577	77	....	3	80	657	34
Carmangay Fine Sd....	39	206	27	2	21	5	150	55	14	6	486	176	29	17	222	708	86
All farms................	232	316	29	5	8	2	232	11	9	7	619	95	5	7	107	726	32
Lomond District:																	
Sundial Silt Clay L.....	13	320	23	*	20	1	152	24	*	8	548	157	*	*	157	705	74
Armada Clay L........	46	256	18	1	1	*	229	9	2	5	521	306	2	*	308	829	45
Lomondeast Cl. L......	62	228	15	2	22	*	162	60	1	6	496	252	47	8	307	803	116
Lomond Loam.........	97	239	22	1	40	*	89	110	*	5	506	210	9	*	219	725	132
Lomond Fine Sand L...	26	244	24	*	46	1	39	105	*	5	464	175	5	*	180	644	92
Lomond Fine Sand.....	17	143	15	1	31	1	43	111	1	6	352	289	84	11	384	736	593
All farms................	261	237	20	1	28	*	126	75	1	6	494	236	20	3	259	755	136

(1) Includes a small amount of breaking.
* Less than 0·5 of an acre.

TABLE 5.—AVERAGE DISTRIBUTION OF LAND USE ACCORDING TO TENURE IN THE VULCAN-LOMOND DISTRICT OF ALBERTA, 1935

Tenure	Vulcan				Lomond			
	Owners	Part Owners	Tenants	All farms	Owners	Part Owners	Tenants	All farms
Number of farms	100	82	50	232	102	114	45	261
	acres	acres	acres	acres	acres	acres	acres	acres
Wheat	254	418	272	316	194	303	173	237
Oats	28	33	23	29	19	24	11	20
Barley	5	6	5	5	1	1	1	1
Rye	6	10	9	8	21	35	26	29
Legumes and grasses	3	2	1	2	*	*	–	*
Summer fallow (1)	179	313	208	232	99	173	66	126
Idle	8	14	14	11	61	95	58	75
Improved pasture	8	13	4	9	1	1	*	1
Farmstead	6	7	6	7	6	6	4	6
Total improved	497	816	540	619	402	638	339	494
Wild pasture	57	146	87	95	165	325	171	236
Permanently Idle	4	2	15	5	25	21	9	20
Waste	5	8	4	7	2	3	4	3
Total unimproved	66	156	106	107	192	349	184	259
Total occupied	563	972	646	726	594	987	523	753
Lease land	6	84	....	32	60	240	46	136
Total farm area	569	1,056	646	658	654	1,227	569	889

(1) Also a small amount of breaking.
* Less than 0·5.

Only minor differences were found between the three tenures in the proportion of the farm which was improved. Of significance, however, was the fact that in Vulcan, the proportions of land in summer-fallow were 32 per cent throughout, although tenants were often considered to be less scrupulous about their farming methods than the owners. In the Lomond district where tenancy is often a catch-as-catch-can arrangement, a smaller percentage of the farm was being summer-fallowed by the tenants than by the owners or part owners (13 per cent as compared with 17 per cent and 18 per cent respectively). Most of the tenants were on the poorer soils in the Lomond district which may explain the difference in the percentage of summer-fallow.

AGRICULTURAL SITUATION AND OUTLOOK, 1938

The annual conference to consider reports on the Agricultural Situation and Outlook will be held in Ottawa, November 29, 30, and December 1, 1937. It is expected that there will be a larger representation of Provincial Departments of Agriculture and Agricultural Colleges than has been possible in the past. The final report will be available to the public shortly after the middle of December, nearly a month earlier than in previous years. Copies of this report may be obtained through the Publicity and Extension Branch, Dominion Department of Agriculture, Ottawa.

The recommendation of the Milk Marketing Re-organization Commission for a permanent commission with power to control production and fix prices has been rejected by the British Government, but the Government is agreeable that a permanent commission without such powers shall be set up. Prices will be set by arrangement between producers and distributors as has been done previously under the Milk Marketing Scheme.

CONSUMPTION OF MILK IN VANCOUVER*

CHARLOTTE I. JOHNSTON

In the August issue of the ECONOMIC ANNALIST tables were given showing the relation between income per capita and the consumption of milk in Vancouver. Further data from the records obtained in that city in 1936 are presented in this article.

As the number of children in the household increased up to two, the per capita consumption of milk in the household increased. This was due no doubt to the greater use of milk by children than by adults. When the number of children exceeded two, however, the effect of this increase in the non-earning members of the household on income per capita and consequently on consumption per capita became evident. The per capita consumption of milk for 1,082 households was classified according to the birthplace of the chief wage-earner of the household, who was generally the male parent. It was found that members of Japanese and Chinese households, according to this classification, had the lowest daily per capita consumption of 0·42 and 0·47 pints respectively; the members of northwestern European households had the highest, 0·79 pints, while those of other European countries ranked next to Japan and China.

TABLE 1.—PERCENTAGES OF CHILDREN ACCORDING TO AGE AND CERTAIN RACIAL GROUPS WHO DRANK BEVERAGES OTHER THAN MILK, IN 1,082 HOUSEHOLDS IN VANCOUVER, 1936

Racial group	Number in group	Canned milk or beverages made with milk	Cocoa, etc. made with water	Tea and/or coffee	Total
		%	%	%	%
Children under 6 years of age—					
Japanese	42	12		5	17
Chinese	42			5	5
Others	296	8	7	2	17
Total	380	8	6	2	16
Children 6-16 years of age—					
Japanese	85	6	5	25	36
Chinese	108			34	34
Others	670	13	8	18	39
Total	863	10	6	21	37
Total—both age groups—					
Japanese	127	8	3	18	29
Chinese	154*			25	25
Others	966	11	8	13	32
Total	1,247	10	6	15	31

* Includes 4 children whose ages were not stated.

As the number of children in the household increased, the percentage of adults drinking milk decreased from 19 to 6 per cent, except that in the group with four or more children the percentage was slightly higher than where there were three children. The birthplace of the head of the household appears to have little part in determining the consumption of milk by non-oriental adults, but Japanese and Chinese adults drank exceptionally little.

Where there were four or more children in the family the percentage drinking milk among those from 6 to 16 years of age was 74 per cent as compared

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*Preliminary report subject to revision.

TABLE 2.—PERCENTAGE OF CHILDREN IN SCHOOL GRADES BELOW NORMAL, NORMAL AND ABOVE NORMAL FOR AGE, IN 1,082 HOUSEHOLDS CLASSIFIED AS TO MONTHLY BILL PER CAPITA FOR FRESH MILK AND CREAM IN VANCOUVER, 1936

Monthly bill per capita for milk and cream	Households	Percentage of total households	Children of school age-grade stated	Percentage in grade below normal for age	Percentage in grade normal for age	Percentage in grade above normal for age
	No.	%	No.	%	%	%
Not stated	3	0·3	8	38	62	....
None	55	5·1	24	21	71	8
Less than $0 50	36	3·3	75	12	76	12
$0 50—$0 99	253	23·4	254	10	84	6
$1 00—$1 49	373	34·5	264	11	75	14
$1 50—$1 99	205	18·9	113	13	74	13
$2 00—$2 49	103	9·5	49	4	78	18
$2 50—$2 99	30	2·8	16	....	81	19
$3 00 and over	24	2·2	9	....	100	....
Total	1,082	100·0	812	11	78	11

with 88 per cent in households having only one child. The average consumption of those drinking milk decreased from 1·38 pints per day by children in one-child households to 0·81 pints per day by children in households having four or more children. This probably reflects per capita income, as the households with low per capita income had in the majority of cases more children than households with high per capita income.

With one exception the percentage of children who drank milk was smaller in households where the chief wage-earner was born in Canada than in households where the chief wage-earner was of another nationality. The exception was China. The highest amount of 1·10 pints per day was drunk by children in the group where the wage-earner was born in northwestern Europe.

Sixteen per cent of the children under six years of age drank beverages other than milk, but only 8 per cent drank those that were not to some extent prepared with milk (Table 1). Twenty-one per cent of the children from 6 to 16 years of age drank tea or coffee or both. The only beverage other than milk drunk by Chinese children was tea.

TABLE 3.—PERCENTAGE RELATION BETWEEN INCOME PER CAPITA AND USE OF VARIOUS GRADES OF PASTEURIZED AND RAW MILK BY 1,082 HOUSEHOLDS IN VANCOUVER, 1936

Income per capita	Households	Percentage using pasteurized milk containing:			Percentage using raw milk containing:		
		5–5·15% butter fat	4–4·15% butter fat	3·25–3·4% butter fat	5–5·15% butter fat	4–4·15% butter fat	3·25–3·4% butter fat
	No.	%	%	%	%	%	%
Not stated	1	0	0	100	0	0	0
Relief	69	1	1	71	0	7	12
Under $300	347	7	9	57	2	11	12
$300–$599	420	19	12	45	1	11	9
$600–$899	194	33	12	33	4	6	6
$900 and over	51	55	6	18	2	10	2
	1,082	18	10	47	2	10	9

As some families bought both raw and pasteurized milk and also more than one grade, there is some duplication amounting to approximately 2·6 per cent.

Some relationship appears to exist between progress in school and the monthly per capita expenditure for milk and cream, which is an indication of income per capita (Table 2). The standing in school of those children who used no fresh milk or cream was much below the average, while that of those in groups which spent $2 or more per capita was well above the average.

Pasteurized milk was used to a much greater extent than raw and the grade of milk purchased was closely related to income (Table 3).

TABLE 4.—RELATION BY PERCENTAGES BETWEEN INCOME PER CAPITA AND THE USE OF EVAPORATED MILK, BUTTERMILK AND CREAM IN 1,082 HOUSEHOLDS IN VANCOUVER, 1936

Income per capita	Households	Percentage of households using various products				
		Evaporated milk	Buttermilk	Cream		
				Whipping	Table	Cereal
	No.	%	%	%	%	%
Not stated	1	…	…	…	…	100
Relief	69	49	3	…	…	…
Under $300	347	48	5	6	6	2
$300–$599	420	46	8	19	12	5
$600–$899	194	54	10	26	21	5
$900 and over	51	28	16	37	28	8
	1,082	47	7	16	12	4

Approximately 50 per cent of the household with a per capita income below $900 used evaporated milk but in the highest income groups its use was much less extensive (Table 4). Buttermilk was used in only 7 per cent of all households and although it is low in price, its use increased with the higher incomes. More households used whipping cream than table cream and cereal cream was used by few. The larger the income, the higher was the percentage of families using cream.

Of 756 households questioned as to the method of purchase of milk, 87·6 per cent purchased all their requirements at the door, 6·7 per cent bought all from stores, and 5·7 per cent made their purchases of milk both at the door and from the stores. Of 725 householders, 92·8 per cent bought their milk from one dairy. The amount of milk purchased varied little throughout the year; less than 2 per cent of 1,051 householders reported that they bought more in the summer and about the same number stated they bought more in the winter.

TABLE 5.—PERCENTAGE OF 1,004 HOUSEHOLDS GIVING VARIOUS REASONS FOR NOT BUYING MORE MILK, VANCOUVER, 1936

Reason	per cent	Reason	per cent
Enough purchased	62·1	Did not like milk	2·2
High cost	23·5	Cost and poor quality	1·0
Canned milk used	3·7	Poor quality	0·6
Did not drink milk	3·3	Others	0·4
Used cream	3·2		
		Total	100·0

Of the total 1,082 householders, 6·6 per cent used no fresh milk. The reasons for not buying any fresh milk or for not increasing their present purchases were given by 1,004 householders and are shown in Table 5. Only 0·6 per cent complained of the poor quality of the product and 1·0 per cent combined high cost and poor quality as a reason for not using more.

SALES OF FRUITS AND VEGETABLES BY GROWERS IN FIVE DISTRICTS OF ONTARIO ADJACENT TO TORONTO

W. C. Hopper

As part of the survey relating to the wholesale marketing of fruits and vegetables in the city of Toronto which was conducted in 1936 by the Economics Branch with the co-operation of the Ontario Department of Agriculture information was obtained from 197 growers of fruits and vegetables located in five different districts of Ontario who sold part or all of the commodities they produced in Toronto.

Table 1—Percentage distribution According to Commodity Groups of Sales of 15,356 Tons of Fresh Fruits and Vegetables Disposed of by 197 Growers in 5 Districts of Ontario Who Sold Part or All of Their Produce in Toronto, 1935

District	Tree fruits	Small fruits	Vegetables	Potatoes	Total
	%	%	%	%	%
Niagara	94·2	4·1	1·7	....	100·0
Leamington	2·7	3·1	91·6	2·6	100·0
Toronto West (within 20 miles)	27·7	2·0	61·7	8·6	100·0
Toronto East (within 20 miles)	0·2	0·5	98·0	1·3	100·0
Burlington	42·4	4·1	46·3	7·2	100·0
All districts	28·4	2·6	63·0	6·0	100·0

The importance of tree fruits in the Niagara district is shown by the fact that 94 per cent of the produce sold by the growers who were interviewed in the Niagara district consisted of tree fruits (Table 1). On the other hand, about 92 per cent of the produce grown by producers in the Leamington district for sale in Toronto and 98 per cent grown by producers within a twenty-mile radius east of Toronto were vegetables. From the area just west of Toronto not exceeding a distance of twenty miles vegetables were also more important than tree or small fruits, while from the Burlington district about half the products were fruits and half vegetables.

Table 2—Percentage Distribution by Methods of Sale of 15,356 Tons of Fresh Fruits and Vegetables Disposed of by 197 Growers in 5 Districts of Ontario Who Sold Part or All of Their Produce in Toronto, 1935

District	Dundas market direct	Wholesalers and commission direct	Chain stores direct	Independent stores and restaurants direct	Trucker at farm	Pedlar direct	Total
	%	%	%	%	%	%	%
Niagara	2·1	66·7	....	....	31·2	....	100·0
Leamington	....	69·8	13·7	....	16·5	....	100·0
Toronto West (within 20 miles)	21·5	44·0	5·8	18·9	8·9	0·9	100·0
Toronto East (within 20 miles)	....	33·5	23·1	35·1	3·2	5·1	100·0
Burlington	0·6	34·7	22·3	2·5	39·9	....	100·0
All districts	10·2	46·5	11·9	13·1	17·3	1·0	100·0

There was considerable variation in the methods employed in selling produce by growers in the different districts (Table 2). Toronto wholesalers and commission merchants handled about two-thirds and truckers who took delivery at the farm handled nearly one-third of the volume of the commodity sold in Toronto by growers who were interviewed in the Niagara district. The Leamington growers sold about 70 per cent of their produce through wholesalers and commission merchants, about 16 per cent to truckers at the farm and about 14 per cent direct to chain stores. Growers in the area within twenty miles west of Toronto sold 44 per cent of their produce through the wholesalers and commission merchants and the next most important group of buyers were the Toronto independent stores and the restaurants. One-third of the sales by growers located within twenty miles east of Toronto were to independent stores and restaurants, about one-third were to wholesalers and commission merchants and the other third was divided between truckers, pedlars and chain stores. Sales to truckers at the farm and to wholesalers and commission merchants were the two most important ways of disposing of produce by growers who were interviewed in the Burlington district. These two agencies handled about 75 per cent of the total quantity which was sold in Toronto.

THE MARKETING OF BANANAS IN TORONTO

Among the fruits imported for sale in Toronto bananas take a prominent place and are, indeed, only exceeded in both volume and cost by one other imported fruit—oranges. During 1935, 1,002 cars of bananas weighing 10,020 tons and valued at $708,839 were unloaded. Of this number, 164 cars were for chain-stores and 838 cars for banana jobbers. Bananas from the British West Indies arriving at Canadian ports are duty free, while others pay a duty of 50 cents a stem. For this reason purchases were only made through the United States ports when the supply through Canadian ports was insufficient to meet the demand, or when market conditions in the United States were such that a low price enabled the buyer to overcome the extra cost of the duty.

TABLE 3—CARLOAD DISTRIBUTION OF BANANAS UNLOADED IN TORONTO DURING 1935

Sales to	Number of cars	Number of stems	Weight	Cost
			Tons	$
Chain stores	164	57,512	1,640	117,050
Banana jobbers	838	389,644	8,380	591,789
TOTAL	1,002	447,156	10,020	708,839

Of the total arrival of bananas, 48·3 per cent were in the four months May to August. This period accounted for only 35·9 per cent of all other imported fruits and would indicate that early Ontario fruits, especially small fruits, are in more active competition with bananas than with any other kind of imported fruit.

Certain of the chain-stores which have banana-ripening rooms purchased 16·5 per cent of the total imports direct, while those chain-stores lacking ripening facilities bought their supplies from banana jobbers. Chain-stores handled 2,270 tons valued at $161,242, or 22·7 per cent of the total arrivals of bananas in Toronto. Carloads other than those for chain-stores were received by banana jobbers, who distributed through small jobbers, pedlars, retailers and retail jobbers, who took the fruit directly from the cars at cost. Each of these various merchants had his own ripening room, usually situated in the basement of his home or store.

Table 4.—Distribution of Sales of Bananas During 1935 to Buyers Located in and Outside Toronto

——	Number of stems	Weight	Cost	Per cent Toronto sales
		tons	$	
Total unloaded in Toronto	447,156	10,020	708,839	....
Sold outside Toronto by—				
Toronto wholesalers	7,557	162	12,000	....
Banana jobbers	39,680	853	65,053	....
Chain-stores	23,374	613	43,535	....
Total	70,611	1,628	120,588	....
Sold in Toronto by—				
Independent stores	243,062	5,224	365,366	62
Pedlars	70,284	1,511	105,178	18
Chain-stores	63,199	1,657	117,707	20
Total	376,545	8,392	588,251	100

In table 4 are shown the arrivals of bananas in Toronto in 1935 and the sales by various agencies.

AGRICULTURAL POLICY IN THE UNITED STATES

In the Economic Annalist for December, 1936 the farm program in America under the Agricultural Adjustment Act and its immediate successor The Soil Conservation and Domestic Allotment Act was discussed in some detail under the title "The Current American Farm Program." That article can now be augmented by some of the results achieved during 1936.

Sixty-seven per cent, or more than 283 million acres of the total cropland in the United States was covered by applications for grants filed by approximately 4 million farmers. The total acreage diverted from soil-depleting crops amounted to nearly 31 million acres though some of this diversion resulted from drought conditions and the planting by farmers in drought areas of emergency drought-resistant, soil-conserving crops. Of the average diverted from soil-depleting crops, 70 per cent was diverted from general crops, 29 per cent from cotton and 1 per cent from tobacco. Soil building practices were carried out on more than 53 million acres of land.

Of payments in connection with the planting of soil-conserving crops, 65 per cent were for diversion from general soil-depleting crops, 28 per cent for diversion from cotton, 5 per cent from tobacco and less than 1 per cent each for the diversion of peanut acreage and for participation in the special sugar, rice and flax phases of the program. Sixteen per cent of the total payments to farmers were for adoption of soil-building practices.

The Soil Conservation and Domestic Allotment Act and its related legislation is now established as a national long-time agricultural policy and the Administrator of the Agricultural Adjustment Administration in the letter of transmittal of his 1936 Report to the Secretary of Agriculture writes "(the Report) reviews the shift in emphasis from emergency measures for alleviating the effect of tremendous surpluses, to long-time programs for the welfare of agriculture and especially for protecting and conserving the Nation's greatest national resource, its soil." The three major long-time objectives are: (1) to conserve the soil and its fertility through wise land use, (2) to re-establish and maintain farm income, (3) to assure consumers of adequate food and other agricultural products now and in the future. While the A.A.A. had as its primary consideration the control of production and emphasized farm prices, the present legislation looks to the adjustment of production through soil conservation and stresses not farm prices but farm income in relation to the income of others not employed on the land. The A.A.A. was an emergency measure, the present legislation is a long-time policy aiming at a balanced agriculture through soil conservation.

Many problems will arise, the final effect of which cannot be foreseen at the moment. For instance, a swing through conservation grants from grain crops to field crops may have an effect upon livestock prices in 1938 with consequent repercussions on livestock production during the next few years. Without contracts with individual farmers—a feature of the A.A.A.—it may be difficult for the Administration to know the quantity of crops that have been shifted from soil-depleting to soil-conserving crops and should the required balance not be fairly accurately maintained and the demand for soil-depleting crops, such as grains or cotton remain unsatisfied and prices rise, many farmers may seize the opportunity to plant such cash crops to their own immediate gain but to the detriment of the long-time policy generally. But such difficulties are no novelty to the agricultural economist and are among the many problems to be faced in any attempt at a reorganization of the farming industry.

In the preamble to the Act one of its purposes is expressed as follows:—

> ". . . re-establishment, at as rapid a rate as the Secretary of Agriculture determines to be practicable and in the general public interest, of the ratio between the purchasing power of the net income per person on farms and that of the income per person not on farms that prevailed during the five-year period August, 1909-July, 1914, inclusive, as determined from statistics available in the United States Department of Agriculture, and the maitnenance of such ratio."

Under the Act then a determined effort is being made to grapple with the problem of the disparity between farm purchasing power and the general price level, a problem which has not been peculiar to America alone, but one which has acted to the disadvantage of agriculture the world over in the recent years of depression. The working out of a basis on which to establish an equitable ratio between farmers' income and the income of others (both expressed in purchasing power) is no easy task and is essentially a long-time job but the United States Bureau of Agricultural Economics has already amassed a large volume of data and analysis is under way. The final answer is to develop a simple "yard stick" measuring parity of income to persons on farms.

ECONOMIC LITERATURE

THE ORGANIZATION OF AGRICULTURE with Applications to South Africa. Hubert D. Leppan, Professor of Agricultural Economics, Pretoria University. Central News Agency, Johannesburg. 83 pages.

ECONOMICS OF AGRICULTURE. A. P. Van der Post, Assistant Chief of the Division of Economics and Markets in the Department of Agriculture and Forestry, Pretoria. Union of South Africa. Central News Agency, Limited. South Africa. 1937. 647 pages and Index.

It is an interesting commentary on the difficulties of agriculture to-day that we find Professor Leppan suggesting " centring research mainly on problems connected with production has not been too successful in avoiding maladjustments in distribution"; and Mr. Van der Post devoting nearly half the pages of his book to marketing and international trade.

Professor Leppan's book is concerned particularly with the organization of farming in South Africa but the author makes no apology for devoting half his discussion to the world situation and general aspects of the farming industry. The chapters on the position in South Africa are of particular interest to the Canadian reader and his proposals for a long-time program of adjustment are based on his conclusions that the future of agriculture in the Union is in live stock. But he adds the caution that any such major change must come gradually and in the wake of research both of land utilization and marketing.

In the preface to his book Mr. Van der Post says it is "An attempt to present the fundamental teaching of economics in relation to agriculture." In doing so the author has prepared a volume suitable for the student and yet free from the involved discussion sometimes objectionable to the general reader. While Mr. Van der Post has much to say of South Africa his book is far from being limited to that country. The text is most cosmopolitan and the publications quoted are drawn from many quarters.

The method used throughout the volume is to present the necessary theory and discuss its practical application to modern conditions. The personal factor and capital and land are discussed at some length and four chapters are devoted to rural development and the distribution of agricultural income. Considerable space is given to marketing and international trade, while trade cycles and agriculture, farm relief and agricultural credit all receive consideration. The final chapter presents a review of South African agriculture.

In line with many other writers the author deprecates the present day tendency towards national self-sufficiency with its restrictions, quotas and tariff walls and suggests that a freer international trade would do much to assist agriculture the world over.

NOTES

The proportion exported of the total domestic agricultural production of the U.S.A. has declined steadily since 1926, and in 1936 was approximately 6 per cent. About 45 per cent of the cotton produced in that year was exported and 37 per cent of the tobacco. Import restrictions in several foreign countries and reduced domestic production has reduced the exports of hog products from 8 per cent of production in 1931-34 to 3 per cent in 1935-36. For the last three years the country has been a net importer of wheat but the large crop of 1937 will permit considerable quantities to enter export channels.

In 1935 exports of Canadian farm products were approximately 22 per cent of the total domestic production. While 90 per cent of the available wheat was exported, a large proportion of the 1935-36 crop year exports were from stocks of previous years and after adjustment for change in stocks the actual figure was 57 per cent of 1935 production. Fifty-five per cent of cheese produced, 53 per cent of the commercial apple crop, 43 per cent of the wool, and 16 per cent of the hogs were shipped abroad.

The production of factory cheese in Canada was 14·6 greater during the first eight months of this year than was the case in the same period in 1936. In Quebec, the increase was 26·1 per cent and the output in Ontario was 11·5 per cent higher. While the production in Prince Edward Island and New Brunswick is not a large proportion of the total output, the former had an increase of 83·5 per cent and the latter an increase of 50·5 per cent. In Saskatchewan and British Columbia reductions of 42·7 and 50·1 per cent respectively took place.

The preliminary report on the 1936 census of agriculture in Saskatchewan has recently been released by the Census Branch of the Dominion Bureau of Statistics. A slight increase in total population took place. In 1931, the population was 921,725 and in 1936 it was 930,893. The rural population grew from 630,880 to 650,522 whereas the urban population declined from 290,905 to 280,371. Compared with 1930, there was a slight decline in the number of persons permanently hired on farms in 1935 but an increase in the number hired temporarily.

The number of farms was slightly higher in 1936—142,391 compared with 136,472 in 1930. The largest increase was in the group of 101-200 acres. There were slight decreases in the 480-639 acre groups, little change in the 800-859 acre group and a slight increase in the number of farms over 960 acres in area.

The
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ISSUED BI-MONTHLY BY THE ECONOMICS DIVISION
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THE ECONOMIC SITUATION

Although a detailed summary of world conditions during 1937 cannot yet be made owing to lack of complete figures, a general picture can be presented.

International Trade.—The year was marked by a continuation of the increase in world trade, both in value and volume, which developed during 1936, and volume of trade in 1937 almost reached the level of 1929. In the latter months of the year however, there appeared to be somewhat of a check and business activity showed signs of slowing up. Prices, which showed an upward tendency during the first quarter of the year, eased at the end of April and the trend was downward from then on. Trade barriers still remain high, but some progress was made during the year to lessen import restrictions between countries and to thus reopen international trade channels. Never-the-less, the policy of national self-sufficiency, particularly in certain European countries continues. As this movement applies primarily to food-stuffs, it has had a far reaching effect upon Canadian agriculture. German agriculture for instance, has been completely reorganized in the last decade, and in 1936 domestic produced foodstuffs accounted for 84 per cent of the total consumed in that country, as compared with 65 per cent in 1927. Great Britain is fostering the home production of such agricultural commodities as wheat, pig-meat, eggs and sugar. Although during the last three years production of agricultural products in Europe as a whole has been checked, it has been caused chiefly by unfavourable weather conditions, and can hardly be taken as an indication of any change of policy in those European countries maintaining a national agricultural program. Trade in foodstuffs failed to show the recovery made by other commodities, particularly minerals, and is still below the level of pre-depression years.

The United Kingdom.—Industrial activity reached new high levels during 1937 and with the exception of the building trade, all other business groups showed considerable improvement over the previous year. There was a marked expansion in overseas trade and the increased exports of certain commodities, manufactured cotton goods for example, assisted a number of industries that have long been in a depressed condition. Although there was a rapid rise in prices early in the year, this was checked in early summer and in turn retarded to some extent the rising cost of living which was advancing faster than wages. Towards the end of the year the position of some commodities was not altogether reassuring but renewed confidence seemed to have developed as the year closed.

The United States of America.—The year opened with prospect of the recovery of the previous year continuing. Business generallly was brisk, production in most industries was high and unfilled orders large. There was a pronounced upswing in prices in certain commodities, particularly metals, and during the Spring something approaching a boom developed. Business however

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

Year	Wholesale Prices 1926 = 100				Retail prices and cost of services (5)	Production (6) 1926 = 100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·4	57·1	73·9	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·7	112·3	114·4	82·7	141·3
1937....	84·5	84·5	85·7	84·9	83·1	122·8	120·8	49·4	157·3
1937									
Jan.....	81·3	86·0	88·3	82·1	81·8	116·9	119·4	42·0	162·5
Feb....	82·9	87·0	89·6	82·6	81·9	115·0	117·7	31·4	170·0
Mar....	85·5	90·0	93·4	84·2	82·2	118·7	122·4	37·3	178·6
April...	86·1	91·4	94·4	86·3	82·4	124·0	128·8	62·3	174·3
May....	85·1	87·8	89·0	85·7	82·9	122·0	126·1	53·1	189·3
June....	84·6	83·7	85·1	81·4	82·9	126·0	130·6	29·3	174·1
July....	87·5	92·5	97·7	83·9	83·2	126·5	130·9	45·7	148·2
Aug.....	85·6	84·9	84·6	85·5	83·8	123·4	127·2	57·6	139·9
Sept....	85·0	86·1	84·8	88·4	83·7	123·8	127·5	86·1	136·3
Oct.....	84·7	86·4	86·3	86·5	84·2	127·4	132·6	55·3	137·2
Nov....	83·1	84·0	81·9	87·4	84·2	127·9	133·5	57·2	138·5
Dec....	82·7	84·2	83·9	84·6	84·3	121·4	125·2	35·5	138·9

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1935, p. 17.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1935, p. 53, and Monthly Mimeographs 1937 and 1938.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100.
Prices and Price Indexes 1913-1935, p. 117, and Monthly Mimeographs, 1937-1938.
6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.
Yearly index numbers for 1937, subject to revision.

did not immediately react unfavourably to this condition, indeed, during the summer months there was a renewal of general activity, but this became hesitant and a general lack of confidence in future prospects matured which had a depressing effect on industrial conditions in the last quarter of the year. Early in January, 1938, the United States Bureau of Agricultural Economics was able to report that the "precipitous" decline in industrial activity "seems to have been checked," with increased improvement indicated in industry generally, slower decline in consumer purchasing power, and greater domestic and foreign demand for American farm products.

Canada.—Business during 1937 showed marked improvement over 1936 and although there were signs in August and September of a possible recession of activity due largely to international influences, continuing through the last quarter of the year, this was greatly checked and the index of physical volume of business rose four points between September and November. In December however there was a marked decline in the indices of physical volume of business and of industrial activity. The rise in farm product prices during 1937 was greater than in any other important commodity group, and farm prices compared favourably with those of other groups for the first time in eight years.

The decline in wholesale prices which started in August continued in November and December. The index of Canadian farm product prices for December was fractionally higher than the previous month, influenced chiefly by higher wheat prices. A slight upward tendency in the cost of living index marked the closing month of the year, both the food and the fuel index being slightly higher. Although wholesale prices have declined in the last four months, no reduction of any consequence has been apparent in retail prices.

Winnipeg cash wheat prices made a net gain during December of 15 cents a bushel. The average price for No. 1 Manitoba Northern was 137·4 cents a bushel and for November 134·6 cents. Livestock prices, with the exception of calves and hogs, declined on the average during December, but average prices of steers, calves and hogs were considerably better than those of December, 1936.

A preliminary survey of the employment situation issued by the Dominion Bureau of Statistics shows that the general index of employment was 17·1 per cent higher on December 1, 1937, than at the opening of the year. As the average advance between January 1 and December 1 in the last sixteen years has been just over eight per cent, the improvement in 1937 has been considerably above normal.

INDEBTEDNESS OF FARM OPERATORS IN THE VULCAN-LOMOND AREA OF SOUTHERN ALBERTA*

G. H. Craig

PART I

This article presents the indebtedness of operators as a background for later analysis of factors in financial progress. Credit and debt fluctuations have contributed a large share to the poverty of many dry area operators. The many foreclosures and quit claims tell a vivid story of defeat and abandonment, especially in the light soil areas.

The acquisition of land and the purchase of machinery were the chief sources of indebtedness but during the depression period from 1929 to 1935, interest and the like increased the burden of debt materially. The depression period intensified the debt situation, not only through causing inability to pay annual obligations but also through the shift upwards in liabilities in relation to assets due to lower prices for products of the farm.

The very high prices paid for land and buildings and the more extensive credit granted by farm machinery companies and banks in the more productive Vulcan district, caused eventual indebtedness to be much higher there than that in Lomond. The depression affected this aspect of the farm problem more seriously in the former district than in the latter. Credit agencies began to withdraw from the drier Lomond area years ago and for that reason a much smaller debt burden accumulated on the east side of Lake McGregor than on the west. More extensive agriculture and, therefore, cheaper land and lesser use of machinery tended to limit Lomond debts.

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* This article is an excerpt from an unpublished report on "An Economic Study of Land Utilization in the Vulcan-Lomond Area in Southern Alberta. Articles from the same study appeared in the Economic Annalist for April, June, October and December, 1937.

Tax and relief indebtedness, which was not large in relation to land and machinery, were involuntary credit items and were found on a larger number of farms in the Lomond than the Vulcan area. This accounted for the slightly larger proportion of operators entirely free of all debt in the Vulcan than in the Lomond district. Nine per cent of the Vulcan operators were free of all liabilities as compared with only 5 per cent in Lomond.

Table 1 presents in average and percentage per farm the distribution of indebtedness in the two districts.

Table 1—Average and Percentage Distribution of indebtedness for the Vulcan-Lomond area of Alberta

Class of debt	232 Farms in Vulcan		261 Farms in Lomond	
	$	% of total	$	% of total
Land	4,148	74	1,311	51
Machinery	397	7	348	13
Tax	344	6	208	8
Relief	31	1	150	6
Bank	144	3	208	8
Other	432	7	229	9
Total farm debt	5,496	98	2,454	95
Total family debt	130	2	128	5
Total liabilities	5,626	100	2,582	100

For the Vulcan farm operators the average total debt was $5,626 as compared with an average of $2,582 for the Lomond farm operators. The greater average indebtedness for the Vulcan farmers may be explained by the fact that the soil of this district as a whole was more productive over the years than that of the Lomond district. The capacity for higher yields over the years is coincident with a higher debt-carrying capacity.

No satisfactory indication of the freedom with which credit was granted in the past in relation to the productivity of the soil was available, as some debts had been paid off previously and no definite record kept. The only index of this was the total debt at the time the study was made and such figures, of course, refer to the more recent years.

The Vulcan owners carried a debt of $14.10 per acre of cropland as compared with $6.20 per acre of cropland for the Lomond district. However, the former had assets to the extent of $24.70 per acre, and the latter, $16.10 per acre. The net equity of the two districts was relatively the same, being $10.60 per acre of cropland for Vulcan and $9.90 for the Lomond district. Since the majority of debts were undertaken at a time when assets were of much more value than at the time of the study these two figures have meaning only in terms of conditions at that time and change rapidly with the changing cycle of prices and yields.

Of the total number of Vulcan owners or part-owners 77 per cent had land debts averaging $1,311 for all farms. The land debt accounted for 74 per cent of all debts in Vulcan and 51 per cent of all debts in Lomond. These figures tend to bear out the contention that land values and land credit had been working toward an adjustment to average productivity and intensity of farm operation.

The less productive lands carried smaller debts on the whole than the more productive in spite of the greater ability of the latter to make principal payments. This is a further indication of the long run adjustment by which land cost tends to even out net returns from one district to another.

It should be borne in mind that it is difficult to see to what extent the present debt was the result of acquiring land or credit at a time when agricultural prices and production were high, or on the other hand to estimate to what extent the lack of debt on certain farms was due to the acquisition of holdings at a time when prices were very low and operator's savings high. It must be remembered, too, that chance crops in some districts were sufficient in certain years to pay off very large amounts of the accumulated indebtedness.

The observations regarding land debts apply in some measure to the debts against other items of security. The less intensive use of machinery in the Lomond district accounts for a slightly lower machinery indebtedness as shown in Table 1. As was pointed out previously, however, there was a tendency for the two districts to make large purchases of machinery in the very prosperous years and to make them on a relatively similar level. The later inability of the Lomond farmers to pay off the indebtedness thus assumed, accounts in large measure for the smallness of the difference between the average debt of the two districts.

Bank debts were actually higher in Lomond, averaging $208 compared with $144 in the Vulcan district. In the Lomond district many of the bank debts were contracted many years ago and very small payments have been made on them since they were assumed. Other farm debts were somewhat higher in Vulcan but not in proportion to the difference in land debt.

Indebtedness accumulated through non-payment of taxes and through relief grants were on a different basis than those against farm capital, since they were not voluntary credit but rather forced credit by the municipality or government. Table 1 shows the tax debt in Vulcan to be somewhat higher than that of Lomond. However, this is more or less misleading since tax levies were much higher in the Vulcan district. Actually 88 per cent of the owners or part-owners in the Lomond district were delinquent in the payment of taxes as compared with 72 per cent in Vulcan. The more highly developed community services of the Vulcan district accounted for the higher taxes and large temporary average tax debt. During the year of the study a very large proportion of the Vulcan farmers paid their current taxes and a part of the arrears through the consolidation system. In Lomond the number who paid their 1934 taxes was very small.

The relief debt was an insignificant part of the Vulcan liabilities except on the Carmangay fine sand. Only 28 per cent of the Vulcan operators received feed and seed from the government for which in 1935 they still owed some part of the advance. In the Lomond district 74 per cent of the operators had outstanding relief feed and seed or direct relief obligations. A very small proportion of the remaining 25 per cent received some governmental assistance and repaid the amount. Most of this latter group never obtained any help in the form of direct relief. Of that group in Lomond who still owed relief debts in 1935, the average amount per farm was $202 as compared with only $109 in Vulcan. For all farms in the sample the average figures were $150 and $31, respectively.

Family debts included outstanding obligations for groceries, health and life insurance premiums. These were of sporadic and usually short run duration, and for that reason tended to be approximately the same in all districts. The average amount of this type of indebtedness was in Vulcan $130 and in Lomond $128.

Size of Farm and Indebtedness.—Certain relationships between the size of the farm and the total amount of indebtedness and its distribution are discernible. With the larger farm units it might be expected that the total liabilities would be greater than for the smaller ones. With the exception of the quarter section size in Vulcan and Lomond, the parallel size units had much higher total indebtedness in Vulcan. The explanation of the smaller total debt on the quarter-section farm in Vulcan that farmers on 160 acres never accumulated more land than their original homestead and had acquired very little debt on this holding, since it had no original purchase price. On the other hand, in Lomond, the quarter-section farmer was generally one who had previously operated a much larger unit but had lost all but that parcel on which his buildings were located. Against this he often owed a large part of the original agreement of sale. In general, however, one would expect that as the farm increased in size and the capital equipment necessary to run the farm increased, liabilities would also increase. This certainly was the case among the farms studied. In Vulcan the debts averaged from $821 on the smallest units to $11,435 on the largest, while in Lomond the figures were $1,464 and $5,966.

While it is true that total liabilities increased with the size of the farm, not all individual items increased in the same relationship. The large operators had relatively heavier burdens of debt in the land, machinery, tax and other farm debt[1] items, but smaller amounts owing on relief feed and seed. The average bank debt varied only slightly from the small to the large farm in both areas although in times past the larger operators were given larger loans from the banks. Conversely they had apparently been better able to pay off the loans. The middle groups of farm units according to size had the largest family debt items in Vulcan, while the larger farms had slightly higher amounts in the Lomond district.

Soil and Indebtedness.—The amount and distribution of indebtedness varied greatly between the individual soil in each of the districts. The chief difference between districts was in land debt. The more productive soils naturally had larger debt-carrying capacity and as a consequence of this alone one might expect that the operators on the better soils would carry higher debts. However, at this stage in the settlement of the communities, the long run productivity of the various soils had not yet been definitely determined. Many parcels of land on the poorer soils had mortgages or agreements of sale against them which were originally equivalent to those which were placed against more productive parcels. Also the more productive soils provided greater surpluses to pay off substantial amounts of the original debt, whereas the crop failures on the poor soils tended to increase the debt against them through accrued interest and non-payment of principal due.

In analysing the distribution of the major debts of farm operators according to soil (table 2), the heaviest total debt was found in the moderately productive Vulcan loan. This soil belt was for the most part almost equally productive with the Blackspring silt loam, which had the lowest total debt. As a consequence credit was extended in the better years equally in these two soil belts. However, during the years immediately preceding the study the Vulcan loam was seriously affected by hail and suffered more acutely with drought. The debt burden actually increased in contrast to the decrease which occurred in the Blackspring soil belt where continuous yields of average crops provided surpluses with which the interest and principal were paid. The Carmangay fine sand with its fluctuating productivity had the least total debt. Peculiarly enough, the lowness of debt in this belt was due to early knowledge of its low yields, and consequent foreclosures and quit claims, as well as lack of credit, accounted for its relative position. It is in direct contrast with the Blackspring silt loam in which the lowness of debt was due to ability to pay the accumulated liabilities, rather than the lack of credit or bankruptcy.

The variations in land debt between the soil belts was carried also into the other items of indebtedness. The two opposing forces, ability to obtain credit and ability to repay it so acted as to obscure the picture. The more productive soil belts generally received more credit for machinery, bank loans and the like, but it was equally true that they were in a better position to repay these obligations. As a consequence no very definite trend appears in the average of these other debt items from the heavier to the lighter soils. It is nevertheless true that similar absolute amounts of debt on heavy and light soils means a much greater proportionate burden on the latter, due to their lesser capacity for payment.

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[1] Includes live stock, lumber, blacksmith, hardware, chattel mortgages, garage bills, hired farm work and back wages to hired help.

Table 2—Average Distribution of Indebtedness according to Soil Type in the Vulcan and Lomond Districts of Alberta

Soil	No. of farms	Land	Machinery	Tax	Relief	Bank	Other farm	Total farm	Total family	Total liabilities
	$	$	$	$	$	$	$	$	$	$
Vulcan District:										
Blackspring silt loam	21	2,109	327	167	1	157	289	3,050	159	3,209
Vulcan fine sandy loam	17	4,735	501	375	16	218	459	6,304	137	6 441
Vulcan silt loam	75	3,980	397	381	28	118	473	5,377	106	5.483
Vulcan loam	52	6,821	527	513	24	219	408	8,512	144	8,656
Vulcan clay loam	28	2,696	282	208	33	75	432	3.726	164	3,890
Carmangay fine sand	39	2,790	299	226	65	107	451	3,938	114	4,052
All farms	232	4,148	397	344	31	144	432	5,496	130	5,626
Lomond District:										
Sundial silt loam	13	646	557	65	43	917*	127	2,355	98	2,453
Armada clay loam	46	2,133	305	260	167	322	336	3,523	160	3,683
Lomond East clay loam	62	1,260	305	236	106	71	165	2,143	97	2,240
Lomond loam	97	1,149	349	212	181	226	271	2,388	149	2,537
Lomond fine sandy loam	26	1,244	411	164	195	44	87	2,145	110	2,255
Lomond fine sand	17	804	363	118	108	6	229	1,628	91	1,719
All farms	261	1,311	348	208	150	208	229	2,454	128	2,582

* One operator owing the bank accounts for a large amount the high average.

In the Lomond district the four least productive soils, fine sand, fine sandy loam, Lomond loam, and Lomond-east clay loam had smaller average total indebtedness than the Armada clay loam which produced much more consistently. However, as in the case of the Vulcan district, the most productive soil, the Sundial silt-clay loam, was in the middle group having a slightly smaller average total debt than the Lomond loam—$2,453 as compared with $2,537. This is chiefly explainable in terms of the position of the silt-clay loam. Surrounded by a very unproductive territory, credit was never extended in very generous amounts over any of the Lomond district, and the Sundial silt-clay farmers with better yields were in a more favourable position to pay off what debts they did accumulate.

As in the Vulcan district it was noticeable that the chief item which made for difference in average indebtedness between the soil belts was that of land debt. One very marked exception, however, must be mentioned. This was the case of the very large bank debt held by the average farmer in the Sundial district as compared with the others. The amount was $917 here as compared with amounts ranging from $6 on the fine sand to $322 on the Armada clay loam. One operator owing the banks a very large amount accounted for almost the total of this figure.

The inability to liquidate land obligations was of major importance in driving many farmers from the land after the great credit expansion during the War and the later retrenchment of the post-war depression in the early twenties. Of these abandonments and the indebtedness of the individuals concerned we have only an incomplete record. It would appear that the majority of them were deeply involved in debt and the final factor which drove them from their holdings was the pressure of creditors, many of whom were forced to take very great losses with the greatly depreciated prices of land.

Tenure and Indebtedness.—Some part of the variations among the operators with different sizes of holdings and on the different soil belts was explainable in terms of the type of contract by which land was held. However, the very nature of ownership and tenancy as a means of holding land is in itself an important consideration with respect to indebtedness, especially in so far as land debt is concerned. Tenants are entirely without this form of indebtedness, paying for the use of their land by share rentals in almost all cases. This means that they are less affected by changes in the value of money as it affects long term debt contracts. The owners on the other hand, buy their land at fixed rates which they pay off usually in annual instalments. Since the large proportion of the land acquisitions and all types of land credit were made during the better years, the owners undertook to pay relatively large amounts of money for their land. During years such as 1933-34, drought conditions and low wheat prices made payments exceedingly difficult to maintain. This naturally put the owners at a disadvantage.

Table 3 presents the distribution of indebtedness according to tenure of operator. The very great difference between the tenants and the owners or part owners is striking. In Vulcan the average total debt for the owners was $6,788 as compared with only $796 for the tenants. The same general difference was evident in Lomond. The higher debt of the part owners than that of the owners is explainable partly in terms of the age difference of the two groups and the years on the present farms. The owners were generally older, averaging 52·9 and 53·8 years of age as compared with the part owners 49·6 and 49·5 years of age, respectively. In both Vulcan and Lomond districts the part owners averaged fewer years on the farm, 18·3 years, as compared with 20·5 years respectively in Vulcan and 17·6 years and 19·5 years in the Lomond district. The part owners in many cases were the younger and middle-aged men who were still acquiring land. They were naturally more heavily indebted than those

TABLE 3—AVERAGE DISTRIBUTION OF INDEBTEDNESS ACCORDING TO TENURE IN THE VULCAN-LOMOND AREA OF ALBERTA

Class of debt	232 Farms in Vulcan				261 Farms in Lomond			
	Owners	Part owners	Tenants	All farms	Owners	Part owners	Tenants	All farms
	$	$	$	$	$	$	$	$
Land	5,181	5,416	....	4,148	1,275	1,860	....	1,311
Machinery	348	550	244	397	263	487	192	348
Tax	420	461	....	344	247	254	2	208
Relief	32	22	43	31	154	158	123	150
Bank	153	123	163	144	244	235	61	208
Other	532	431	233	432	183	300	150	229
Total farm	6,666	7,003	683	5,496	2,366	3,294	528	2,454
Total family	122	150	113	130	64	187	127	128
Total liabilities	6,788	7,153	796	5,626	2,430	3,481	655	2,582

who had ceased to acquire land and were working their holdings with the intention of paying off present obligations rather than taking on more. In some measure, too, the part owners were holders of larger tracts of land and, therefore, had greater assets to show against their liabilities.

CO-OPERATION IN CANADA*

A. E. Richards

Some of the early pioneers of this county discovered nearly one hundred years ago the advantages of working together. They found that savings could be made by joining together in the marketing of their products and the purchase of supplies for the household and farming operations. They learned that competitive warfare of producer against producer was both unnecessary and unprofitable. In those days there were no co-operative acts in Canada, but this did not stand in the way of the enterprising pioneers in the co-operative field. Early associations were formed without the assistance of co-operative acts, but they were truly co-operative in principle and succeeding years proved their worth. Having proved their worth government action followed.

Early History.—The letters of John Young of Halifax, Nova Scotia, who wrote under the pen name of "Agricola" in the *Acadian Recorder* during the latter part of the 18th century, provide one of the earliest records of agricultural organization in Canada. His writings inform us that "the first agricultural society in Nova Scotia was instituted at Halifax on the 10th of December, 1789; and soon after, the inhabitants of the county of Hants formed themselves into a similar association, with a view to co-operate with the Capital in promoting agriculture and rural economy." These early societies were interested mainly in improved husbandry, and by collective action encouraged and assisted in the introduction of new machinery, seeds and live stock and in the treatment and application to the soil of the natural limestone deposits. Through their organization they also assisted immigrants in settlement on the land and in finding employment. There is also evidence of the formation of a farmers' club in Quebec City under the patronage of the Governor-General Lord Dorchester in 1789. Two years later the first agricultural society was formed in Upper Canada with provincial wide aspirations but does not appear to have carried out its program and by 1805 had ended its brief career. Following closely after these early attempts at organization other societies were formed from which can be traced the beginnings of our agricultural fairs and other permanent institutions.

The organization of the Grange which was flourishing in the rural communities of the United States entered Canada and organized branches in Quebec and Ontario in 1872. This affiliation was broken and a Dominion Grange of the Patrons of Husbandry was established under federal charter in 1877. This organization established a number of co-operative business enterprises, none of which has survived although the society itself still exists, the last meeting having been held in Simcoe, in 1932. In 1889 another farmers' organization made its way into Canada from the United States. This was the Patrons of Industry, which also promoted and established a number of co-operative enterprises. In principle and purpose this organization differed from the Grange in that it definitely entered politics, both provincial and federal. The growth of the Patrons of Industry was phenomenal, but the organization died out rapidly after its failure in the elections of 1896. The Dominion Grange, following the principles of its constitution, has always kept out of the political field.

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* Address to Ottawa Presbytery Young People's Union, United Church of Canada in Annual Convention at Aylmer, Que., October 3, 1937.

To-day in most of the provinces of Canada machinery is provided through acts of provincial legislatures for the formation of co-operative business organizations. As Canada is primarily an agricultural country, leadership in the co-operative movement came first from agricultural communities. Probably for that reason the provincial co-operative acts were designed to assist farmers in the marketing of their products and purchase of supplies. The majority of the Acts, however, are sufficiently broad in their interpretation to provide for the organization of consumer co-operatives in cities and towns.

Objectives.—One of the main objects of a co-operative association is to effect savings in the marketing of farm products or the purchasing of supplies. Its membership is usually confined to those who patronize the association. Other distinctive features are a limitation on the ownership of shares of capital stock, one vote per member, a moderate rate of return on capital within definite limits, and the disposition of any surplus, after reserves have been provided for, in proportion to patronage. By enacting statutory laws governing the establishment of co-operative associations governments have given recognition to the usefulness of this type of organization in the economic life of the community. They have provided the instrument for organization, that is the Act of the Legislature and have established the legality of such associations. In other words, if you wish to organize a co-operative for a legitimate purpose, it can be done lawfully and you will be protected by the laws of our country.

The co-operative associations acts establish the legal status of an organization, determine its powers and limitations, and chart a general course of procedure to which an association incorporated under such acts must conform.

Organisation.—The organization of a co-operative is a simple, straightforward and business-like procedure. The application to organize which is usually termed a memorandum of association must be signed by a responsible group of persons who are initiating the organization and deposited in the office of the Registrar of Companies or Registrar of Co-operative Associations. The memorandum must state the name of the proposed association, designate the place of business, the objects of the association, the amount and kinds of capital stock and the value of shares.

The by-laws which must comply with the act are the common rules applying to a particular company which are adopted by the membership. These rules govern membership relations. Such matters as the bonding of officers and employees handling funds of the association, the setting of the fiscal year, provision for dividends if any, and provision for amendments are contained in the by-laws. For trading associations the inclusion of a clause dealing with the policy of the association in regard to cash sales or limitations upon credit is important.

If the memorandum and rules appear to the Registrar to comply with the act, he issues a certificate showing that the association is incorporated and a copy of this certificate with a statement of the objects of the association are published, for a stated period of time in the provincial Gazette. This certificate of incorporation is evidence that the requirements of the act in respect to incorporation have been complied with, and that the association is duly incorporated and authorized to carry on business.

Why Incorporate?—The fee charged a co-operative for incorporation varies from $1 to $15 in the different provinces. The question may arise, why should a co-operative bother about incorporation and pay this charge. The answer is that incorporation provides a number of safeguards to business enterprises which are made legal by statutory law. It creates a corporation separate and distinct from the membership which composes the association. It establishes the principle of limited liability. Thus, if the incorporated company by some misfortune falls into heavy debt, suit for the recovery of the debt must be brought against the company and not against the individual members which compose it except for the amount remaining unpaid on their membership fees or subscriptions for shares. Limited liability obtained through incorporation facilitates the raising of capital. Other desirable and protective features of incorporation are that real estate and other property may be owned and transferred in the name of the company and the property interest of its members is made definite and more easily transferable.

Development in Canada.—Now let us go back and trace the development of co-operative organizations in Canada from where we left off with the Dominion Grange in the early nineties. The records obtained from farmers' business organizations at present active show that during the nineties and up to 1915 development of co-operative enterprises in Canada moved rather slowly. Records show that of the companies at present active, about one-fifth were established within that period. During the next decade and up to the present time organization in business by farmers has made steady growth in numbers, membership and business. Co-operative organizations now hold a useful position in the movement of farm products to market and the purchase of farm supplies, and they have gained an important place in the field of Canadian business. The activities of the larger organizations, such as the wheat pools and the livestock and fruit co-operatives, have reached a high stage of development and have received world-wide recognition. In addition to these are hundreds of comparatively small organizations which are working quietly and effectively in serving local areas.

The co-operatives in Canada which have stood the test of time through competition, depressions, crop failures and other hazards which all business must face had their beginning in a small way. As a protest to trade abuses or seeing an opportunity to make savings a small but interested group got together and formed an association. As the movement grew there was amalgamation through the federation of locals on a regional or provincial basis and later on a national or Dominion-wide basis. The important point is that there was a need for the co-operatives. They started their growth at the roots, as it were, and after gaining experience and becoming well established in their local positions, they branched out into wider fields.

In 1929 under the direction of the Honourable Dr. W. R. Motherwell, Minister of Agriculture and a veteran co-operative leader in Western Canada, the Agricultural Economics Branch was established with Dr. J. F. Booth as Commissioner. The object of one phase of the newly formed Branch was to study the farmers' co-operative movement. As a basis for study and with the assistance of provinces a survey of existing organizations was undertaken in 1931 and has been continued in succeeding years.

Activity in 1935-36.—The total number of associations reporting their business to the Economics Branch in 1936 was 781. Now I may say that this does not represent the total of all co-operatives in existence in Canada. The returns made by co-operatives are on a voluntary basis but we think we have all of the important farmers' co-operatives in Canada represented in the Branch records and probably about 80 per cent of the total number. Let me draw your attention to the total number of associations reporting in 1936. For the marketing group 380 are listed and for the purchasing 378. Now the number of associations is not a good indicator of size in this case as many of the associations are organized on a provincial or national basis. The number of places of business is a better indicator. For the marketing group there are 2,820 and for the purchasing or consumer group 423 with a total of 3,266. Total shareholders who represent the owners of the co-operative business in Canada number 366,885.

There are approximately 750,000 farms in Canada so that we may say that a large proportion of the farmers in Canada support the co-operatives. Total patrons, the people who did business with the co-operatives, number 406,321. Total assets, that is everything that the members in these co-operatives own, amount to $85,752,000. Assets consist of buildings, equipment and land and inventories. The value of plant which includes building and equipment and is a part of the total assets amounts to $35,000,000.

Financial Standing.—General liabilities, that is the money which the co-operatives owe to outside interests, amount to $34,665,000. It should be noted that a large proportion of this amount, $26,000,000 to be more exact, is in the grain and seed group. This is due in a large part to stocks of grain which were on hand in the co-operative elevators at that time. Money was borrowed from the banks to pay the farmers for the grain as it was delivered. When the grain was sold the loan from the banks was paid off and the size of this item has been reduced considerably. Paid-up share-capital amounts to $8,950,000. This figure represents the amount of money which members invested originally in their business. Reserves and surplus total roughly $42,000,000. These two items, share-capital and reserves and surplus added together make up net worth or the members' equity in the business, which amounts to over $50,000,000.

Owners equity or net worth should bear a certain relationship to other balance sheet items if the financial structure of the organization is sound. A rough standard ratio of net worth to debt is 1 to 1, which means that one dollar of the owner's investment offsets each one dollar of debt. For all co-operatives in the Dominion, treated as one large company the ratio of worth to debt is 1·45 to 1. This is a favourable position to be in, for it shows that the co-operatives are standing on their own feet.

Size of Business.—Sales of farm products for 1935-36 by all co-operatives amounted to $144,962,609, sales of supplies amounted to $12,788,192, which means a total business of $158,165,565. This represents big business and a force in Canadian economy. In addition to this business, Canadian farmers own and control 325 mutual fire insurance companies which carry approximately one billion dollars of fire insurance on farm property. Co-operative People's Banks have been in existence in the province of Quebec since 1900 and have developed into important institutions in the community life of the province. Credit unions have operated in Canada for a number of years and recently they have received new impetus and encouraging recognition in various provinces.

Although the past few years of economic strain have been difficult for the co-operatives in common with all types of business, they maintained their standing in Canada in a creditable manner. Canadian co-operatives as a whole for 1935-36 reported an increase in business of $28,000,000 over the previous year mainly due to the improvement in prices of farm products. During 1935-36 reserves were increased by $1,000,000 and debts were decreased by $20,000,000. As a result of these changes the general financial standing of co-operatives reporting has been considerably strengthened. This is good business.

Definition and Distinguishing Features.—Let us turn now to co-operatives in general and start with a definition of a co-operative. Let me give you the definition of a United States Commission of inquiry into co-operative enterprise in Europe. This Commission, which was appointed by President Franklin D. Roosevelt, has recently published its report. The definition reads, "A co-operative enterprise is one which belongs to the people who use its services, the control of which rests equally with all the members and the gains of which are distributed to the members in proportion to the use they make of its services." That seems a satisfactory definition.

The co-operative is distinguished from other business corporations in that the owners are also its patrons. First, control is divided equally or on the basis of patronage rather than on the basis of investment. Secondly, profits are apportioned to owners or patrons on the basis of patronage. Thirdly, the enterprise is operated for those who use rather than invest. Both co-operatives and private companies must carry on business at a profit to live but the difference lies on the basis of the distribution of profits. The success of a co-operative, like any business, lies in sound planning, good judgment, effective management. The impelling motive is service, not profit.

While some people are dreaming of creating a new state of society through co-operatives, you will find the managers of the successful co-operatives are working away at practical business problems. In answering the question, "What is Co-operation?" the United States Commissioners state, "The ownership is different from that of private business; the job is done in much the same way."

What Co-operatives Have and Have Not Done.—There are certain things that co-operatives have done and some things which they have not been able to accomplish. They have educated their members to produce the kind and quality of product that the market demands. In the main fruit producing areas of Canada, certain of the co-operatives employ field men who instruct their members in good orchard practice and in top-working their trees into standard varieties. Co-operatives have exerted a real influence on the standardization and improvement of grade and pack of Canadian products. One could cite the activities of the dairy, grain, poultry, honey co-operatives in this regard. The larger co-operatives keep in constant and direct touch with domestic and foreign markets by means of telegraphic reports and with this information are in a position to control the flow to market and improve the distribution between markets. With knowledge which the individual producer cannot command they are able to avoid market gluts. By collective bargaining they have strengthened the position of the individual. These things have been accomplished and at the same time favourable public relations have been maintained. All this means reduction of waste, better quality and improved service or more efficient marketing. They are all practical problems.

There are some things that co-operatives have not been able to do and yet it was to accomplish these impossibilities that certain co-operatives were organized. Co-operatives cannot arbitrarily "fix" prices although they can influence prices to some extent. The co-operative cannot eliminate the middleman. A co-operative may replace private business agencies with co-operative agencies but the various steps from producer to consumer must be taken and the co-operative finds that it cannot side-step them. The jobbers, brokers and distributors all perform important marketing services.

Co-operatives cannot cut costs greatly. It is sometimes assumed that a co-operative can do business more cheaply than a private company because it is expected to eliminate profit. The people who hold this view forget that profits arise due to the very fact that costs have been cut.

Co-operative difficulties are often due to the inherent weaknesses of democratic institutions. Too many voices frequently control co-operative policies and harmony between management and members becomes strained. The vote which is the co-operative member's claim on authority is sometimes used unintelligently or not at all. Active members may lose control by not setting up safeguards in the by-laws which provide that owners and patrons will be substantially the same group. There is a tendency sometimes towards extravagance. Members of a new organization sometimes expect impossibilities. Capable management may and often does overcome these difficulties.

There is no magic in co-operation. It is not utopian. It is a practical way of doing business and if co-operatives are entering the field of business they must be prepared to take the risks of business, the rebuffs of business and meet competition in a business-like way. If co-operatives are going to hold their place in the commercial field, they must maintain a sound financial structure, hold a solvent position and withstand scrutiny and tests of business efficiency.

For the present and until we are much better educated in co-operative principles and practice there is ample scope for co-operatives to develop along with private enterprise. Healthy competition is good for both types of business. An important function of a co-operative is in the role of a regulator of private business. As such it can perhaps be more effective than anti-trust laws or government commissions. The co-operative, it may be said, can set the pace in quality, in service and in price.

Now the question may come up. Should a new co-operative be formed? Is there a need for it and a job to do? Is there something that is not being done, or could a co-operative do a better job? There is no virtue in doing something through a co-operative if it is already being well done.

If you decide there is a job then decide if the foundation stones for success as outlined by Dr. Whiton Powell of Cornell University are present: (1) Is there leadership to organize and manage? (2) Is there a full understanding of the needs, purposes and limitations? (3) Is there sufficient volume of business in sight? (4) Is capital available? (5) Have you a plan of operation?

When you have studied and answered these questions you will be in a better position to go ahead.

MARKETING OF PRODUCE BY 93 VEGETABLE AND FLOWER GROWERS IN OTTAWA DISTRICT[1]

At the request of three growers' organizations in the Ottawa region, the Economics Branch of the Dominion Department of Agriculture in collaboration with the Ontario Department of Agriculture made a survey of the By Ward Municipal Market and of all fresh agricultural produce coming into the city of Ottawa by other channels.

Information was obtained from growers, pedlars, truckers, wholesale fruit and vegetable dealers, as well as independent retail and chain stores.

Records from ninety-three vegetable and flower growers were obtained on the By Ward market, and figures of total sales by commodity groups are shown in table 1. Seventy-two per cent of the total sales of the ninety-three growers was made on the market and 28 per cent was sold to various buyers direct and not through the market.

TABLE 1.—VALUE OF SALES BY COMMODITY GROUPS OF 93 VEGETABLE AND FLOWER GROWERS WHO SOLD PRODUCE ON THE BY WARD MARKET, OTTAWA.
(October, 1936—September, 1937)

Commodity Group	By Ward Market Sales	Non-By Ward Market Sales	Total Sales	By Ward Market Sales	Non-By Ward Market Sales	Total Sales
	$	$	$	%	%	%
Fruits and vegetables	145,504	64,301	209,805	74·8	85·2	77·7
Potatoes	6,883	1,133	8,016	3·5	1·5	3·0
Flowers	18,911	6,141	25,052	9·7	8·2	9·3
Poultry products	9,396	3,052	12,448	4·8	4·0	4·6
Animal products	13,671	838	14,509	7·1	1·1	5·3
Other	155	15	170	0·1	....	0·1
Total	194,520	75,480	270,000	100·0	100·0	100·0
Per cent	72·0	28·0	100·0	....	....	....

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(1) Preliminary report subject to revision.

In table 2 the sales made on the market by the growers interviewed, amounting to $194,520, are analysed according to the kind of buyer. Householders purchased 42·5 per cent of the quantity sold and the next largest buyers were the independent retail stores.

TABLE 2—DISTRIBUTION BY CLASSES OF BUYERS AND BY COMMODITY GROUPS, OF SALES OF 93 VEGETABLE AND FLOWER GROWERS ON THE BY WARD MUNICIPAL MARKET, OTTAWA.
OCTOBER, 1936—SEPTEMBER, 1937

Commodity Group	Consumers	Wholesalers and jobbers	Pedlars and hucksters	Chain retail stores	Independent retail stores	Hotels and restaurants	Others	Total
	$	$	$	$	$	$	$	$
Fruits and vegetables	48,977	12,742	24,874	7,090	41,100	5,783	4,938	145,504
Potatoes	3,411	100	931	550	1,519	372	....	6,883
Flowers	16,683	250	131	....	1,847	....	....	18,911
Poultry products	6,270	336	....	....	1,516	1,374	....	9,396
Animal products	7,270	450	....	....	2,699	3,252	....	13,671
Other	120	....	....	....	....	....	35	155
Total	82,731	13,878	26,936	7,640	48,681	10,681	4,973	194,520
Per cent	42·5	7·1	13·3	3·9	25·1	5·5	2·6	100·0

ECONOMIC LITERATURE

PRICE EFFECTS OF CANADIAN WHEAT MARKETING.—Working, Holbrook. Wheat Studies of Food Research Institute, Stanford University, California.

Price movements on the Winnipeg market have been studied to determine seasonal changes and to discover what affect the heavy marketings in the fall months have on prices. Concerning seasonal variation the report states, "Wheat marketing is strongly seasonal in character, consequently the seasonal course of prices affords some indication of price effects that may be attributable to the rate of marketing. Of the normal Canadian wheat crop of about 400 million bushels, three-fourths is exported; prices in foreign markets are, therefore, of prime importance for Canadian wheat." The 16-year period 1921-22 to 1936-37 is studied to determine seasonal variation of Canadian wheat prices. A peak for prices of Canadian wheat in British markets is shown in July and August from which there is an average decline of about six per cent to the low levels of the October-November period. Average prices then rise to a second peak in February, a little lower than the one in August. Then there is a decline to the second seasonal low in June.

Prices of No. 1 Manitoba Northern wheat show a stronger seasonal variation at Winnipeg than on the British market because shipping costs, representing the main element in price differences between the two markets, have a seasonal tendency roughly opposite to that of the Winnipeg price. On the Winnipeg market, from a low prevailing over the three months, October-December, the averages rise fairly steadily to a peak in July. Then ensues a drop of about 13 cents in September and October, as marketing of the new crop begins. There is a question as to whether the seasonal movement on the Winnipeg market is determined by the seasonal movement on the British market adjusted for shipping charges; or conversely, the seasonal variation of Canadian wheat prices in the British market may be determined by the seasonal course of prices at Winnipeg modified by the seasonal variation in shipping costs. The author takes the view that the latter answer is correct and that it is chiefly in the Canadian market that the seasonal course of prices of Canadian wheat is initially determined. The relative price position of Canadian wheat has in individual years differed widely from that shown in the 16-year averages, under the influence of changing conditions of supply and demand. Canadian wheats have tended to be relatively high in price when supplies of Canadian wheat for export are small in relation to total world exports and conversely, Canadian wheats tend to be relatively low in price when supplies of Canadian wheat are large in relation to total world exports. The relative abundance or scarcity of hard wheats from other countries also affects the price of Canadian wheat in relation to the softer wheats. There has been a progressive increase in the demand for hard wheats during recent years.

Referring to the specific effects of rate of marketing on future prices the report states, "Demonstration of the existence of seasonal tendencies in prices correlated with seasonality in marketing goes only a short may toward indicating the effects of rate of marketing on price. The typical price decline at about the time marketing of a new crop begins may result chiefly from augmentation of supplies rather than the rate of marketing itself. Indeed, such an inference is supported by the fact that prices of British domestic wheat show a wider seasonal variation than do prices of Canadian wheat, although the seasonal variation in the rate of marketing is much greater for Canadian wheat." Study of the effect of daily marketings on the daily price were made by comparing the relationship between the daily spread between Winnipeg prices and Liverpool prices, and the daily deliveries of wheat from Canadian farms. The comparison was inconclusive in that while in some periods the Winnipeg price declined or advanced relative to Liverpool rather systematically as deliveries increased or decreased, at other periods no systematic relation is apparent. At other times the Winnipeg price advanced relative to the Liverpool price despite increases in marketings. The study is further detailed to bring out the differences in the effect of deliveries under the varying marketing conditions which have existed since 1922. During part of the period the Wheat Pools were in operation. Later stabilization activities were carired on by the Central Selling agency with governmental support and still later the Wheat Board was in operation. Concerning this phase of the work the report concludes, " The evidence, such as it is, seems nevertheless to support three generalizations of considerable interest: As regards the absorption of hedging pressure, the Winnipeg futures market, operating without restraint, seems to have worked very well; interference that goes so far as to threaten price fixing may measurably reduce the efficiency of the futures market; and attempts by a powerful central agency to counteract variations in hedging pressure may work well or may work poorly, depending presumably on the knowledge and skill with which they are directed.

THE AGRICULTURAL SITUATION AND OUTLOOK, 1938

This publication is now available free on request from the Publicity and Extension Branch, Department of Agriculture, Ottawa, or from the Director of Publicity, Department of Trade and Commerce, Ottawa.

Prepared jointly by officials of the Departments of Agriculture and of Trade and Commerce, this annual publication is for the guidance of farmers and those interested in the agricultural industry. Dealing with all agricultural products, the aim is to bring together in the Outlook all available facts bearing upon the production and marketing of farm produce and to analyse these facts in the light of previous experience and, in so far as is possible, in the light of prevailing conditions of supply and demand.

The Outlook should be used in conjunction with the additional information which is issued from time to time throughout the year by the Dominion and Provincial Departments of government.

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The ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE ECONOMICS DIVISION
MARKETING SERVICE
DEPARTMENT OF AGRICULTURE
OTTAWA

Vol. VIII, No. 2 | Published by Authority of the Hon. James G. Gardiner, Minister of Agriculture | April 1938

THE ECONOMIC SITUATION

Figures are now available to review the economic progress made by Canada during 1937 in more detail than was possible in the last issue of The Annalist.

Production activities as measured by the index of physical volume of business were 9·5 per cent greater than in the preceding year and only 2·2 per cent below 1929. The newsprint, mining and power industries all reached new high records and showed marked increases over the levels of both 1929 and 1936, while the increase in the volume of manufactured goods was about 8·5 per cent over 1936. The output of industries engaged in the production of producers' goods showed a gain of 13·1 per cent in 1937 over the preceding year, and the gain in consumers' goods was 6·4 per cent.

Retail sales increased over 1936 by 7·7 per cent and gains were recorded by twelve out of the thirteen kinds of business included in the tabulations made by the Dominion Bureau of Statistics. The index of sales of departmental stores registered a gain of over 5·9 per cent for the year.

The final estimate of the total expenditure by foreign tourists in Canada is placed at $295 million, a gain of nearly $50 million over 1936 and the expenditure of Canadian tourists abroad is placed at about $123 million. This leaves a balance on tourist account of about $172 million in Canada's favour.

The downward trend in business activity which marked the closing months of 1937 and the opening one of 1938 became less pronounced during February. Although the present situation is hardly as favourable as a year ago, production during February was about equal to the preceding month in many industries, while some recorded expansion. That the downward trend in world economy and the recession in the United States has reacted less severely upon Canadian industry than was expected seems supported by a study of the *Weekly Review of Economic Conditions* of March 12, 1938, issued by the Dominion Bureau of Statistics. While the weekly economic index shows a decline of 4·4 per cent from that of a year ago, the increase in the first week of March over the preceding week was 2·8 per cent. More satisfactory however is the fact that the gap between the weekly indexes for the two years has been narrowing since the beginning of February.

The minor advance in wholesale prices which began early in December 1937 continued into January before meeting a moderate reverse. In February however, wholesale commodity prices exhibited a firmer tendency, particularly towards the end of the month. The retail price index changed little in January and February. A slight decline in food and fuel prices during February reduced the index for that month only fractionally.

Wheat prices, which advanced during the early part of January, broke and reached a low figure for the month on the nineteenth and were then very

Annual and Monthly Index Numbers of Prices and Production Computed by Dominion Bureau of Statistics

Year	Wholesale Prices 1926 = 100				Retail prices and cost of services (5)	Production (6) 1926 = 100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·4	57·1	73·9	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·7	112·3	114·4	82·7	141·3
1937....	84·5	84·5	85·7	84·9	83·1	122·8	120·8	49·4	157·3
1937									
Jan.....	81·3	86·0	88·3	82·1	81·8	116·9	119·4	42·0	162·5
Feb....	82·9	87·0	89·6	82·6	81·9	115·0	117·7	31·4	170·0
Mar....	85·5	90·0	93·4	84·2	82·2	118·7	122·4	37·3	178·6
April...	86·1	91·4	94·4	86·3	82·4	124·0	128·8	62·3	174·3
May....	85·1	87·8	89·0	85·7	82·9	122·0	126·1	53·1	189·3
June....	84·6	83·7	85·1	81·4	82·9	126·0	130·6	29·3	174·1
July....	87·5	92·5	97·7	83·9	83·2	126·5	130·9	45·7	148·2
Aug.....	85·6	84·9	84·6	85·5	83·8	123·4	127·2	57·6	139·9
Sept....	85·0	86·1	84·8	88·4	83·7	123·8	127·5	86·1	136·3
Oct.....	84·7	86·4	86·3	86·5	84·2	127·4	132·6	55·3	137·2
Nov....	83·1	84·0	81·9	87·4	84·2	127·9	133·5	57·2	138·5
Dec....	82·7	84·2	83·9	84·6	84·3	121·4	125·2	35·5	138·9
1938									
Jan.....	83·8	86·3	88·8	82·2	84·1	111·8	113·5	37·6	135·1
Feb....	83·6	85·1	87·5	81·1	83·9	106·7	107·4	25·7	137·2

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1935, p. 17.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1935, p. 53, and Monthly Mimeographs 1937 and 1938.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp 181-185, 290-293. 1926 = 100.

Prices and Price Indexes 1913-1935, p. 117, and Monthly Mimeographs, 1937-1938.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

Yearly index numbers for 1937, subject to revision.

irregular. The monthly average price for No. 1 Northern cash wheat was 149·1 cents a bushel. Fluctuations during February were narrow, but prices declined during the last few days. The average price for the month was 144·6 cents a bushel.

Canadian cattle have moved to the British market much more extensively this year than during the corresponding period a year ago. The total shipments to March 3, were 5,489 as compared with only 189 head in 1937. On the other hand, shipments of beef cattle to the United States have declined and only 6,754 have gone forward compared with 37,973 for the corresponding period a year ago. Shipments of dairy cattle show only a slight decline at 1,419 head and calves, 8,036 have decreased considerably from the figure of 11,957 for 1937. Average live stock prices have remained weak during the first two months of the year.

Stocks of eggs in cold storage were lower during the two months under review than a year ago. Prices during January were fairly steady but the market in February was extremely erratic as production fluctuated with sudden changes in temperature. Butter markets were strong throughout January and February and new seasonal high price levels were established at Montreal and Toronto in February with quotations exceeding any since March 1930. The average February jobbing price at Montreal for No. 1 creamery prints was 35·3 cents a pound compared with 26·6 cents a pound in February 1937.

United Kingdom.—The total value of British trade in 1937 (exclusive of bullion and specie) was £1,625,825,667. Imports increased over the previous year by £10·78 million, exports by £3·36 million and re-exports declined by £1·22 million. The excess of imports over exports, merchandise only, was £432·3 million, an increase of £85·9 million and a higher figure than any year since 1926. The Board of Trade points out, however, that the rise in prices in 1937 was greater for imported commodities than it was for the classes of goods exported, and this accounted in large measure for the adverse balance. The total imports for the year were £1,029·06 million, an increase of £181·3 million (21 per cent) over 1936. Exports of United Kingdom goods were valued at £521·59 million, an increase of £81 million (18·4 per cent), and re-exports showed an advance of £14 million (23·7 per cent). The proportions of imports received from Empire countries in 1937 (39·4 per cent) just exceed that in 1936 (39·2 per cent), and was the highest ever recorded. Exports from the United Kingdom to Empire countries declined from the record figure of 49·2 per cent in 1936 to 48·3 per cent, and re-exports to Empire countries declined from 17·8 per cent to 16·3 per cent. Importation of wheat (96,900,000 long cwts.) declined from the 1936 figure by about 4 per cent. Supplies from the Argentine and the Soviet Union, almost negligible in 1936, assumed more normal figures in 1937 at 957,000 and 15,500,000 long cwts. respectively. Consignments from Canada declined from 57,800,000 cwts. to 34,200,000 cwts., while those from Australia at 22,400,000 cwts. declined by 900,000 cwts.

CO-OPERATIVE MARKETING AT HOME AND ABROAD

A. E. Richards

Much has been written and said about co-operation in Denmark, Norway and Sweden and in looking at achievements in these and other distant lands we are apt to overlook progress at home. True, the North American continent is far behind European countries in the development of consumer co-operatives. In the field of co-operative marketing of farm products, however, Canada holds a ranking position with the United States and with the exception of Denmark appears to be well in advance of most European countries.

Denmark Leads.—The accompanying table shows the extent of co-operative marketing enterprise based on reported membership and volume of business in Canada, the United States and eight European countries in 1935. The national totals are presented in section (*a*) and these are reduced to averages for easier comparison in section (*b*) of the table. In interpreting these totals and averages, it must be borne in mind that farmers who recognize the advantages of co-operative marketing may belong to more than one association and, therefore,

TABLE 1—EXTENT OF CO-OPERATIVE MARKETING ENTERPRISE IN CANADA, UNITED STATES AND VARIOUS EUROPEAN COUNTRIES IN 1935[1]

(a) National Totals

——	Membership, farmers' co-operative societies	Rural population	Occupied farms	Total business of co-operatives
	No.	No.	No.	$
Czechoslovakia	597,079	7,687,864	....	87,744,823[2]
Denmark	590,853	1,994,898	205,971	277,695,000
Finland	366,134	2,993,479	287,171	60,076,440
France	847,686	19,616,000	3,966,330	(3)
Great Britain	150,016	9,216,400	579,706	54,119,154
Norway	204,356	2,013,000	298,360	36,083,466[2]
Sweden	395,474	2,484,626	307,379	54,412,800[2]
Switzerland	362,927	2,828,624	236,095	(3)
United States	3,660,000	53,820,223	6,288,648	1,840,000,000
CANADA	366,885	4,792,135	728,623	158,165,565

(b) National Averages

——	Members as per cent of rural population	Members as per cent of occupied farms	Business per member	Business per capita rural population	Business per occupied farm
	%	%	$	$	$
Czechoslovakia	7·8	....	146·96	11·41	....
Denmark	29·6	286·9	469·99	139·20	1,348·22
Finland	12·2	127·5	164·08	20·07	209·20
France	4·3	21·4	....	....	....
Great Britain	1·6	25·9	360·76	5·87	93·36
Norway	10·2	68·5	176·57	17·92	120·94
Sweden	15·9	128·7	137·59	21·90	177·02
Switzerland	12·8	153·7	....	....	....
United States	6·8	58·2	502·73	34·19	292·59
CANADA	7·6	50·4	431·10	33·00	217·07

[1] Not including trade of central federations. [2] 1934. [3] Not available.
Source. Report of Inquiry on Co-operative Enterprise in Europe, 1937. Washington, D.C.

there is some duplication in membership figures. For example, a farmer may sell his milk through a dairy co-operative and his eggs through a poultry co-operative and thus be reported as a member by each association. This is brought out in the column under the heading, "Members as per cent of occupied farms," which shows Denmark with a national average of 286·9 per cent. In other words, on an average every farmer in Denmark belongs to approximately three co-operative marketing associations. In Canada and the United States, where there is greater specialization in farming, there is not the same degree of repetition among farmer membership. This must be taken into consideration when interpreting the items representing business per member.

Probably the fairest comparison is obtained on the basis of average business per capita of rural population and business per occupied farm. In the latter classification Denmark leads with each farm contributing on the average $1,348.22 of co-operative business in 1935. Other countries fall far below this average. The United States ranks second with $292.59 per occupied farm and Canada third with an average of $217.07.

Canada and United States Keep Pace.—It is interesting to compare Canada's position and that of the United States with respect to the co-operative marketing of farm products. The total population of Canada is approximately one-tenth that of the United States and the ratios of rural populations and numbers of occupied farms roughly correspond. Available statistics based on reports for 1935 show 366,885 members of co-operative marketing associations in Canada who contributed to a total business of $158,165,565 in that year. Comparative figures in the United States for the same year show 3,660,000 members and estimated total business of $1,840,000,000. These figures are roughly ten times the Canadian totals and bear approximately the same relation as number of farms and rural population in one country and the other.

Bearing in mind the limitations of average figures which are used as relative rather than absolute measures of co-operative marketing activity the national averages of the two neighbouring countries on this continent show a remarkably close correspondence. Business per member in Canada during the year 1935 amounted to $431.10 compared with $502.73 in the United States. Business per capita of rural population was $33 and $34.19 in the respective countries while on the basis of business per occupied farm, each operated farm in Canada contributed $217.07 of co-operative business in 1935 compared with $292.59 in the United States. These statistics for 1935 and previous years indicate that the progress of co-operative marketing in Canada and the United States has moved along at approximately the same steady rate during the past twenty years and compares favourably with development in other lands.

INDEBTEDNESS OF FARM OPERATORS IN THE VULCAN-LOMOND AREA OF SOUTHERN ALBERTA[1]

G. H. Craig

PART II

Change in Debt Position 1934-35.—It is well known that farmers generally received only a minimum of credit in the years following 1929. Much reduced prices for farm products and prevalence of depression conditions, lack of confidence, and stringent money were largely responsible for this condition. The lack of credit from 1930-35 was in direct contrast to the great expansion of the loans which occurred during the latter part of the twenties and the last years of the war. In general, farmers maintained approximately the same size of holdings as they had operated in the years of easy credit. It is not surprising then that many of the operators were forced, through lack of ready funds to limit the intensity with which they tilled their land. In many cases, large tracts which otherwise would have been worked by thorough summerfallow methods were either very lightly scratched over or left entirely idle.

The obligations undertaken in the better years reduced still further the working capital of the operators by taking from them a certain part of their liquid funds for the payment of interest and to some extent of principal on such debts. The amount of new credit extended, and the payments made in principal and interest by the farmers of the study is shown in table 1. The amount of interest which remained unpaid during the year (interest accrued) is also shown.

The Vulcan farm operators were able to pay back in principal $312 per farm operator as compared with $73 by the Lomond operators. A higher average payment for the Vulcan operators was to be expected since they were on the average more heavily indebted. The higher net income of the Vulcan operators was also important in the amount of principal and interest payment. The Vulcan

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(1) This article is an excerpt from an unpublished report on "An Economic Study of Land Utilization in the Vulcan-Lomond Area in Southern Alberta." The first part appeared in The Economic Annalist for February, 1938, and other excerpts in the issues of April, June, October and December, 1937.

TABLE 1—AVERAGE DISTRIBUTION OF CHANGE IN DEBT POSITION IN THE VULCAN-LOMOND AREA FOR 1934-1935

—	232 farms in Vulcan		261 farms in Lomond	
		Per cent of total		Per cent of total
	$		$	
New credit	355	66	254	70
Accrued interest	182	34	107	30
Total new debt	537	100	361	100
Interest paid	158	47	29	21
Interest accrued	182	53	107	79
Interest payable	340	100	136	100
Principal paid	312	100	73	100

farmers on the average had operators' income of $285, while the Lomond farmers had on the average only $66 as operators' income. The higher amounts paid in principal and in interest by the Vulcan farmers was thus coincident with their higher net incomes.

Of 212 farm operators that were indebted in the Vulcan district, 75 per cent made principal payments in order to reduce their outstanding indebtedness. In the Lomond district, 93 per cent of the 148 operators who had liabilities made principal payments.

Interest payable was another indication of the relative indebtedness and extension of credit to various districts in the past. The Vulcan farmers on the average had interest payments of $340 to meet, of which 47 per cent was actually paid. The Lomond farmers on the average had interest payments of only $136 to meet of which 21 per cent was paid.

In the Vulcan district, 84 per cent of all the farm operators interviewed had interest payments falling due during the year 1934-35 of which number only 20 per cent met their payments in full and 53 per cent partially. In the Lomond district, 89 per cent of the farm operators reported interest payable. Of this number with interest obligation, 47 per cent paid nothing, 45 per cent made partial payments and the remaining 8 per cent paid in full. Even with much smaller obligations, the Lomond farmers were in a poorer position to pay than were those of Vulcan.

The total new credit which was extended to the two districts differed considerably. The Vulcan farm operators on the average were advanced $537, of which 66 per cent was new credit and 34 per cent was accrued interest on all obligations. The Lomond farmers received a somewhat lower average advance of new credit. The amount received per operator was $361 of which $254 was new credit and $107 was accrued interest, i.e., involuntary credit. A large part also of the $254 was of an involuntary nature since current taxes unpaid and relief items were included in this figure. The amount of involuntary credit was much greater than in the Vulcan district.

It is not to be inferred from the above discussion that all farmers in both districts needed or were able to secure new credit. It was not easy to secure, and many farmers because of their financial status, were unable to obtain credit although it was needed. Some, on the other hand, because of their past savings, had no need to rely on anyone to carry them, but were able to make cash payments for what was needed.

Size of Farm and Change in Debt Position.—As the size of farm increased, the amount of principal paid also increased with one or two variations. In the Lomond district the average principal payment for the smallest farm was $57 and for the largest $933. The same tendency was noted for the Lomond farms, but it was not as uniform. Also the principal payments for the corresponding size of farms were on the average much lower than those of the Vulcan district.

The study also showed that the total new debt increased with the size of the farm. It was evident that the ability to get credit in larger amounts was associated with increase in the size of farm holding.

Table 2—Relation Between Debt Reduction, Size of Farm and Operator's Income for the Vulcan and Lomond Districts, 1934-1935

Size of farms	Vulcan			Lomond		
	No. of farms	Ratio of total liabilities to principal and interest paid	Average operator's income	No. of farms	Ratio of total liabilities to principal and interest paid	Average operator's income
Quarters			$			$
1	10	1 : 0·084	245	8	1 : 0·051	71
2	49	1 : 0·080	256	46	1 : 0·025	72
3 and 4	82	1 : 0·066	367	103	1 : 0·033	173
5 and 6	49	1 : 0·081	301	54	1 : 0·058	9
7 and 8	21	1 : 0·099	209	29	1 : 0·036	34
9 and over	21	1 : 0·112	91	21	1 : 0·045	−279
All farms	232	1 : 0·084	287	261	1 : 0·040	66

Table 2 shows the relation of payments in principal and interest to the total liabilities. In the Vulcan district, the ratio varied little on farms of one and one-half sections or less while those over that size showed a higher proportion of payments on debt. In Lomond, the trend of the ratio is inconclusive with no size grouping having paid very large proportions of the principal and interest due.

Table 3—Relation Between Debt Reduction, Soil, Operators Income and Average Wheat Yield in the Vulcan and Lomond Districts of Alberta, 1934-1935

Soil type	No. of farms	Ratio of total debt to principal and interest paid	Average operator's income	Average wheat yield 1934
			$	
Vulcan District—				
Vulcan fine sandy loam	17	1 : 0·126	948	16·4
Blackspring silt loam	21	1 : 0·107	524	16·4
Vulcan silt loam	75	1 : 0·091	432	13·6
Vulcan loam	52	1 : 0·090	196	13·6
Vulcan clay loam	28	1 : 0·054	−88	8·9
Carmangay fine sand	39	1 : 0·027	−26	5·8
All farms	232	1 : 0·084	285	13·2
Lomond District—				
Armada clay loam	46	1 : 0·054	178	10·7
Sundial silt clay loam	13	1 : 0·051	1,231	13·1
Lomond east clay loam	62	1 : 0·050	− 3	5·5
Lomond loam	97	1 : 0·026	− 55	4·6
Lomond fine sand	17	1 : 0·034	139	3·3
Lomond fine sandy loam	26	1 : 0·025	−144	2·4
All farms	261	1 : 0·040	66	6·0

Soil and Change in Debt Position.—Soil was a factor determining which operators would be able to meet their obligations in any particular year. Table 3 shows the ratio of total indebtedness to principal and interest paid, and the soil types are ranked on this basis.

The ability to pay off indebtedness was closely related to operators' income on the various soil types. Although the relationship between operators' income and the ratio of indebtedness to the amount paid off was not as closely related in the Lomond district as in the Vulcan district, still there was evidence of some relationship.

Tenure and Change in Debt Position.—The relation between tenure and the change in debt position is shown in Table 4.

Table 4—Relation Between Debt Reduction, Tenure and Operators Income in the Vulcan-Lomond Area of Alberta, 1934-1935

Tenure	Vulcan			Lomond		
	No. of farms	Ratio of total liabilities to principal and interest paid	Average operator's income	No. of farms	Ratio of total liabilities to principal and interest paid	Average operator's income
			$			$
Owners	100	1 : 0·063	114	102	1 : 0·032	59
Part owners	82	1 : 0·101	402	114	1 : 0·040	−10
Tenants	50	1 : 0·176	438	45	1 : 0·095	275

Although the tenants had the lowest debt, they made the largest proportionate payments. This was coincident with largest net earnings. Tenants, in order to maintain credit standing, must be more regular in their payments than owners or part-owners who have fixed assets as security.

Reasons for Obtaining Mortgages.—An endeavour was made to discover the reasons for the assumption of land debt. Table 5 summarizes the various reasons for obtaining mortgages. The reasons given most frequently for obtaining mortgages were; assumed with purchase, consolidation or payment of short term obligations, general farm operations, and to finance the purchase of additional land. The heavy burden carried in land obligations cannot be overemphasized as a limiting factor in financial progress.

Table 5—Reasons for Obtaining Mortgages in the Vulcan-Lomond Area of Alberta

Reasons	Vulcan		Lomond	
	Number of operators giving specific reason	Per cent	Number of operators giving specific reason	Per cent
1. Assumed with legacy	7	5	2	3
2. Assumed with purchase	27	18	10	15
3. Pay off indebtedness	47	31	13	19
4. General farm operations	24	16	26	39
5. Building	7	4	1	2
6. Equipment	10	6	2	3
7. Land purchase	16	10	7	10
8. Miscellaneous	1	1		
9. Secure loan	1	1	2	3
10. Health			2	3
11. Unknown	12	8	2	3
Total	152	100	67	100

AGRICULTURAL OUTLOOK SERVICE*

J. Coke

The Agricultural Situation and Outlook is now in its fifth year of publication. I think it is a safe assumption that it has obtained an established place in Departmental activities. This does not assume that changes will not be necessary or advisable—in fact, each year the Committee has set about to criticize the report itself and the means adopted in its preparation and presentation.

Objectives.—The objective of the Outlook Service is perhaps two-fold. In the first place, it provides for an appraisal of the economic situation; it is a means of taking stock. In the second place, and I think this is most important, it is a means of making available to the public the best economic information procurable at the time when it can be used as a basis in planning for the new year.

By and large we have made a substantial beginning in providing the sort of economic guidance which farmers need but which they are not always in a position to acquire, except through such a service.

Necessity for Outlook Information.—The necessity for agricultural outlook information arises from the fact that agriculture has become a commercial undertaking. With the development of specialized commercial agriculture, improvements in transportation, refrigeration service and other forms of transportation service, the area of market supply has increased. It is now essential that farmers know not only what is transpiring in different regions of Canada but in those countries which compete with us in world markets. The farmers clue to production is price. The Outlook report endeavours to summarize the price-making forces which are operative and which will be operative during the year just ahead.

Data Required.—This means that as rapidly as possible the machinery must be developed whereby the supply and demand conditions both in the domestic market and in foreign markets may be analyzed. We must know better than we do now, what production trends are among our competitors at home and abroad. We must know what the prospects are for consumer purchasing power, particularly in the United States and Great Britain, our most important market outlets, and we must know in so far as it is possible what governmental policies are likely to be made effective in national and international trade.

I must emphasize that it is economic information that is required to make the Outlook a success. There are other and more effective channels through which technical advice may be made available. If it is included, it adds to the size of the report and is apt to obscure essential points. Information that is useful from year to year is irrelevant in an Outlook report for the current year. We have been making progress in the development of statistical data as a background for Outlook work and I think that the present year will see a very marked improvement in this respect, for there is a considerable amount of data available which has not been fully analyzed.

History of Outlook Information.—Perhaps at this point we might trace the development of agricultural outlook work on this Continent because it is almost exclusively an American idea. The Bureau of Agricultural Economics at Washington published the first Outlook report in 1923. It did not appear as a formal publication but in one of the issues of " Weather, Crops and Markets." The following year, however, an Outlook report was prepared and one has been issued annually since that date. Moreover, almost all the individual States prepare and distribute Outlook reports. The national Outlook in the United States is prepared entirely in the Bureau of Agricultural Economics. A few representatives from other Bureaux are invited to sit in at the committee meetings but the actual work is done in the Bureau of Agricultural Economics. I shall have something more to say about the State reports later.

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*From an address presented at the 10th Annual Tobacco Divisional Conference held in Ottawa, February 22, 1938.

In Canada, the first Outlook report appeared in "The Economic Annalist" in February, 1933. In January, 1934, a small group representing Agriculture, Trade and Commerce, and the Bureau of Statistics gathered together and after considerable debate decided to experiment with the preparation of a report on "The Agricultural Situation." The Outlook information caused much discussion, particularly the price forecasting. Statistical analysis was not even as well developed at that time as it is now and for that reason there has been considerable reluctance to present actual forecasts.

I should say that prior to this, discussion of Outlook Service had taken place at various agricultural meetings and in 1933 the National Advisory Committee on Agricultural Services had appointed a committee of Dr. Booth, Economics Branch, Department of Agriculture, Ottawa, Dr. Lattimer, Macdonald College, and Dr. Grindley, Dominion Bureau of Statistics. This committee still functions as the central agency determining agricultural Outlook policy.

You will observe an entirely different set-up in Canada compared with the United States. Here the co-operation of several Branches of the Department of Agriculture and the Department of Trade and Commerce, External Affairs and Finance is openly sought and in fact is essential because of distribution of marketing services in particular. In Washington, most of these services are combined in one service. In Canada, the form of organization adopted has had for the most part a very useful effect for we have become better acquainted and in the matter of Outlook, we have developed approximately the same point of view.

I should emphasize here, that in Canada the Central Outlook Committee has always stressed the point that the preparation of the Outlook report was not intended to displace market information services already established. It brings together information which has been accumulated during the year and this is used to set up the sign posts of future developments particularly in the year ensuing. It has welded all of this information in a compact, cohesive statement which is being supplemented right along by the regular market service of the Department of Agriculture, the Dominion Bureau of Statistics and the Commercial Intelligence Service.

Perhaps I should enlarge upon the organization of the Dominion Outlook Service. We have set up fourteen committees, eleven of these committees are for the purpose of preparing the Outlook report of specific commodities or group of related commodities. One is a Board of Review and one is an Editorial Committee. The reports are sent to the secretary of the Central Committee who takes them to the Board of Review. This Board examines the report for conflicts with general policy, contradictions and general conformity to the construction of other Outlook reports. The report then goes to the Editorial Committee which has power to revise but not to change the meaning of the report. When all the reports have been reviewed and edited, they are presented to the general conference for consideration. This is a committee of the whole. In other words, the report has to be approved by a group of men representing different services. The report is then returned to the Editorial Committee for final presentation as a part of the general report. Conferences are held at the end of November, and at the last conference we had representatives of seven provinces in attendance.

State and Provincial Reports.—In the United States, Outlook work began within the Federal government service. The State colleges and extension services then began to publish state reports. In Canada, two provinces had presented Outlook reports before the Dominion entered the field, these provinces being Saskatchewan and Nova Scotia. The province of Ontario published a report in 1936-37. The province of Quebec is expected to have a report for 1939.

I cannot go into all the reasons for which national and provincial reports are desirable but there are a few that are inescapable. First, the emphasis should be placed upon certain commodities in provincial reports. An Ontario report should emphasize tobacco, cheese, fluid milk, peaches, grapes, apples, hogs, beans, corn and canning crops. An Alberta report should emphasize wheat, oats, barley, beef cattle, hogs, sugar beets, butter, range sheep and wool. The second reason for provincial reports is the adaptation of the facts given in the national report to conditions within a province. The national report cannot take into consideration the local conditions which may well be covered by a provincial report and a generalization which may be accurate for the country at large may not apply to a particular region in a province. The provincial reports should be based upon statistical data for the province and be presented in the simplest language. This means that the provincial reports will present the more local conditions experienced by the farmer but in the light of information bearing on the whole area of supply and demand.

These three reasons are sufficient justification for a provincial report and others might be given. I do not think any province is equipped to obtain the data contained in the foreign and domestic situation as presented in the national report.

Use by Extension Workers.—In the United States, a well developed extension service adapts the Outlook reports to the needs of the farmers. This may be accomplished by state, county and community meetings. A large number of county agents across the border now make the Outlook the basis of their program for the year. In this connection, charts, graphs and statistical tables are made available by the Federal and State Departments to supplement the information contained in the formal report. In Canada, we are developing this aspect of the service. Ten sections of tables were prepared in the Dominion Bureau of Statistics to accompany the Outlook Report sent in 1938 to agricultural or district representatives in all provinces. At the annual conferences held to consider the reports, we plan in future to introduce more statistical data to broaden the discussion as much as possible.

The national report is a good base upon which to establish Outlook work. The provincial report adds to this structure but the most effective work can be done by the extension worker. I might just as well be frank and say that until we get the extension men interested in Outlook work, the effectiveness of our efforts will be considerably lessened. This information is made available for farmers. It is written in a reasonably simple way but it is expected that eventually the extension worker will have the material to adapt it to the localities in which he operates. This is the way the information can be translated into action by farmers; it is the ultimate goal in Outlook work. If we fail in this, I would not care to forecast the future of Outlook work in Canada. In this connection, Mr. H. A. Craig, Deputy Minister of Agriculture for Alberta did much to forward the work in Alberta this year, by calling his District Agriculturists together and presenting the Outlook report to them.

Improvements in the material which goes into the national report are contemplated but our biggest problem is to establish contact with the extension worker and to insure that he has data to interpret and amplify the national and provincial reports available. The extension worker should not regard this as "another job" but as a means to make his program even more effective than it has been.

One way in which the report could be made more useful would be by means of quarterly statements. This is done in some of the States now and I think would materially strengthen the national report. It would overcome the possibility of the Outlook becoming one grand splurge in October and November.

The final report would tend to be a more considered document than has been possible to date. Lack of staff has, however, prevented any development of this sort.

We have had excellent co-operation from the press. Each year, we have issued seven to ten press releases which have been widely used. This year the Canadian press made a release which gave the report very substantial publicity and got the main feature before the public quickly. We have used radio for one national broadcast and this year provided five short radio talks for local stations throughout the country. The Outlook has provided the farmer and the agricultural extension worker with a basis for a program and among those associated with the preparation of the national report the Outlook meetings have provided an effective medium for co-ordination and adjustment of objectives.

WHOLESALE FRUIT AND VEGETABLE DISTRIBUTION COSTS

W. F. Chown

A study of the costs incurred by wholesale dealers in the distribution of fresh fruits and vegetables is now being made by the Agricultural Economics Branch. This was undertaken at the request of the Canadian Fruit and Vegetable Jobbers' Association but all wholesalers operating in the markets visited were given opportunity to participate. This project forms part of a larger and more extensive study of all costs of distribution from grower to consumer.

Source of Data.—Data were obtained by personal call at the offices of the co-operating dealers and not by questionnaire. The firms' audited statements were the usual starting point and these were put on a reasonably comparable basis by analysis of accounts and interview with officials. Suitable information was obtained from eighty-seven dealers carrying on business in nine important cities across Canada—Sydney, Halifax, Saint John, Montreal, Toronto, Winnipeg, Regina, Calgary, and Vancouver. The business records for the years 1935 and 1936 were studied.

Trading Operations 1935 and 1936.—Sales amounted to $29,183,753 in 1935 and to $32,677,376 in 1936 and were $61,861,129 for the two years. Net profit for the 87 dealers amounted to $186,811 as shown by their own statements. Various adjustments were made that did affect expense and profit, for example, salaries of principals, depreciation and rent were charged where these had been omitted. Interest on the average investment at 5 per cent amounting to $254,255 was also charged in order to equalize costs between those who owned buildings, cold storage plants, delivery equipment and other plant assets and those who rented these and presumably paid something on account of interest in the rent. The net affect of these adjustments was an addition to expense or reduction from profit of $256,240 and changes the net profit into a loss of $69,429. This loss is after provisions for a dividend of 5 per cent on average net worth.

Trading operations for the years 1935 and 1936 are presented on a percentage basis in Table 1. Expenses are classified under six main headings—salaries and wages is the outstanding item amounting to 4·77 per cent of the selling price or 45 per cent of the total expenses. Total expense averaged 10·57 per cent of sales for all Canada and ranged from an average of 8·20 per cent in Toronto, Ontario, to an average of 14·51 per cent in the Maritime Provinces.

Detailed Analysis of Wholesale Distribution Costs.—Table 2 presents an analysis of the expense incurred by wholesale dealers in distributing fresh fruits and vegetables. This is after the charge for interest on plant assets has been distributed to the related expense account, e.g., cartage, building expense, etc. This classification was decided on after some experience in gathering the data and though not ideal is an attempt to present the facts in a fairly logical

TABLE 1—PERCENTAGE SUMMARY OF EIGHTY-SEVEN WHOLESALE FRUIT DEALERS' TRADING OPERATIONS FOR THE YEARS 1935 AND 1936

(After adjustment but before distributing interest on plant assets)

——	Canada	Maritimes	Quebec	Ontario	Prairie Provinces	British Columbia
	%	%	%	%	%	%
Sales	100·00	100·00	100·00	100·00	100·00	100·00
Cost of Sales	89·54	85·51	91·71	92·36	87·39	86·12
Gross Profit	10·46	14·49	8·29	7·64	12·61	13·88
Expenses:						
Salaries and wages (exclusive of truck drivers)	4·77	6·19	3·20	3·77	5·98	6·69
Trucking—cartage and delivery	1·57	2·57	1·53	1·22	1·57	1·63
Demurrage, storage and building expense	1·50	1·55	1·81	1·31	1·42	1·45
Travelling	0·58	0·89	0·24	0·15	1·31	0·76
Interest	0·60	1·09	0·44	0·59	0·56	0·69
Other expense	1·55	2·22	1·36	1·16	1·62	2·06
Total Expense	10·57	14·51	8·58	8·20	12·46	13·28
Profit (after interest on investment)	−0·11	−0·02	−0·29	−0·56	0·15	0·60
Included above:						
Interest on investment	0·41	0·69	0·27	0·45	0·33	0·49
Principals salaries	1·32	1·61	1·06	1·07	1·22	2·19
Number of firms	87	11	13	18	19	26

manner. The total expense for the 87 firms for the two years is shown in the left hand column. The columns to the right show the average cost for Canada and for the several districts as dollars per $1,000 of sales.

When the fruit and vegetables are received, the dealer has the alternative of placing them on the floor and offering them for immediate sale, or placing them in cold storage to await a more favourable market or of putting samples only on the floor and leaving the balance in cars on track. In Montreal and Toronto, cars are used extensively for storage purposes, only slightly so in the Maritimes and in almost negligible amounts on the Prairies and in British Columbia. The cost to the 87 dealers for the use of railway cars and for heating and icing them in the terminal amounted to $108,293 for the two years. Even where the fruit market is located on a railway siding there is still considerable cartage of goods from docks and other railway terminals and to or from storage. Of the total trucking costs $220,800 was apportioned to cartage of this kind. Cartage as a ratio of sales was highest in the Maritimes and nearly as high in Ontario. Cold storage hired amounted to $180,466 and was highest in Montreal and well above the average in Toronto. In the Maritimes and in the west, cold storage plants in the warehouse are more common than in central Canada and so the cost of refrigeration for the former districts will be included in the next classification. Building expense amounted to $685,738 and is made up of rent or its equivalent, maintenance costs, business taxes, depreciation on equipment, insurance on contents, less rents received from parts sublet. In Quebec, charges made by the Montreal Produce Terminal are included. The high ratio in the Maritimes and in the West is only partly accounted for by the private refrigeration plants mentioned. Warehouse wages amounted to $668,542 and were well below the average in Quebec where cars were unloaded by the Produce Terminal and the cost included in building expense. From the foregoing, it is evident that the separate classifications are not strictly comparable across the table but the sub-total is very nearly so. With the exception of the Maritimes, the district averages do not vary widely from the average for all Canada.

In addition to warehousing, the dealer must sell the goods, perhaps pack them for shipment, deliver them to customers in most cases and then collect his money. Advertising is not a large item in the wholesale fruit business, the total being $28,592 for the two years. Salesmen's salaries, amounting to $960,184, including commissions paid to salesmen, is the largest item in this classification of expense and was highest on the Prairies. Salesmen's travelling expenses amounted to $257,634 and again was highest on the Prairies where distances are great and population scattered. The bulk of the goods are sold in their original containers but some repacking is done and bananas must be carefully packed for shipment. The total for packing material was $104,592. The goods having been sold and packed must be delivered to the customer's place of business. On some markets, a very substantial quantity is taken by the customer. On most out-of-town shipments, the freight or express is paid by the customer. The cost of delivery incurred by wholesale dealers totalled $756,577 and averaged $12.23 per $1,000 of sales. In the Maritimes, it was $20.53 per $1,000 of sales because of the distance from Sydney to the neighbouring towns and because Saint John dealers either delivered to a widespread area or paid the delivery charge to competitive points. Bad debts amounted to $191,113 and were an important item. The Canadian average of $3.09 per $1,000 of sales seems relatively low.

In addition to warehousing and selling, the dealers must arrange to have supplies of fruit and vegetables on hand either by purchase or on consignment,

TABLE 2—ANALYSIS OF EIGHTY-SEVEN WHOLESALE DEALERS' COST OF DISTRIBUTION FOR THE YEARS 1935 AND 1936

(After adjustment and after distributing interest on Plant Assets)

Expense	Canada Total	Per $1,000 of Sales					
		Canada	Maritimes	Quebec	Ontario	Prairies	British Columbia
	$	$	$	$	$	$	$
Demurrage, car rental, heating and icing at terminal...	108,293	1.75	0.32	4.02	2.46	....	....
Cartage, track and storage...	220,800	3.57	5.57	4.43	5.51	0.51	1.41
Cold storage hired...........	180,466	2.92	1.88	4.98	3.19	1.55	1.54
Building expense.............	685,738	11.09	15.02	9.40	8.63	13.25	13.08
Warehouse wages............	668,542	10.81	15.75	4.65	8.52	14.36	17.21
Warehousing and Establishment...............	1,863,839	30.14	38.54	27.48	28.31	29.67	33.24
Advertising..................	28,592	0.46	1.29	0.27	0.39	0.46	0.39
Salesmen's salaries...........	960,184	15.52	18.99	10.38	12.22	22.89	17.98
Salesmen's travelling expense.	257,634	4.16	8.06	0.03	0.48	12.24	4.51
Packing materials............	104,592	1.69	3.57	0.42	1.14	1.30	4.13
Delivery.....................	756,577	12.23	20.53	11.00	6.81	15.30	15.10
Bad debts....................	191,113	3.09	4.54	3.96	2.17	2.26	3.60
Selling and Delivery.....	2,298,692	37.15	56.98	26.06	23.21	54.45	45.71
Postage and stationery.......	172,293	2.78	4.00	1.71	2.15	3.64	3.82
Telephone and telegraph.....	214,483	3.47	4.76	3.11	2.86	3.74	4.00
Administration travelling and auto expense.............	102,421	1.66	0.88	2.37	1.06	0.91	3.09
Office salaries...............	504,713	8.16	11.12	6.37	6.26	10.37	9.81
Principals' and managers' salaries....................	818,977	13.24	16.06	10.57	10.68	12.23	21.92
Miscellaneous expense........	248,225	4.01	4.03	4.18	2.92	4.83	4.68
Administration and General....................	2,061,112	33.32	40.85	28.31	25.93	35.72	47.32
Interest......................	318,852	5.15	8.70	3.95	4.52	4.80	6.56
Total Expense...............	6,542,495	105.76	145.07	85.80	81.97	124.64	132.83

invoices must be rendered, accounts kept, and the organization and maintenance of these several functions require considerable supervision. Postage and stationery used amounted to $172,293 and was about half postage and half stationery. Telephone and telegraph messages amounted to $214,483 and were used for both buying and selling. In addition to salesmen's travelling expense, a number of firms maintained automobiles for the use of managers and others and some travelling expense was incurred in the quest of supplies, attendance at meetings, etc. This was estimated to be $102,421. Office salaries amounted to $504,713 or $8.16 per $1,000 of sales. Principals' or managers' salaries, including an apportionment of head office salaries, were $818,977 or $13.24 per $1,000 of sales. These varied widely and averaged less than $5,000 per firm and $3,500 per individuals. Miscellaneous expense in which the largest single item would probably be fees to local credit associations was $248,225.

Finally a supply of working capital must be available of which the cost is interest. Total interest, including bank charges other than foreign exchange, was $375,979 but $57,127 has been distributed to other expense categories and what remains must therefore be the cost of working capital and bank exchange.

TURNOVER OF FRUITS AND VEGETABLES IN OTTAWA BY INDEPENDENT RETAIL STORES*

B. A. Campbell and †F. H. Gorsline

The study which has been underway of the marketing and distribution of fruits and vegetables in Ottawa included a survey of the Ottawa independent retail stores handling those commodities. Information was obtained from seventy-two stores, eight of which were stores in the vicinity of the Ottawa Public (By Ward) Market and doing some wholesale as well as retail business. These By Ward Market stores represented 44 per cent of the stores of this type in this area. The remaining sixty-four stores represent 17·7 per cent of all grocery stores, 32 per cent of the fruit stores, 18·2 per cent of meat stores and 35·1 per cent of voluntary chain stores in the city of Ottawa.

Figures were obtained in regard to the purchases of local and non-local produce; non-local referring to all produce not grown in the Ottawa Valley.

Total estimated purchases of fresh vegetables, fruits and potatoes by the 352 independent retail stores in Ottawa, from October 1, 1936, to September 30, 1937, amounted to $1,084,274 (Table 1).

Table 1—Estimated Purchases of Local and Non-Local Vegetables, Fruits and Potatoes by all Independent Retail Stores Located in Ottawa (Including Stores Located on By Ward Market) October 1, 1936, to September 30, 1937

Type of Store	No. of stores	Per cent of stores represented by records obtained	Local vegetables	Local fruit	Local potatoes	Total local purchases	Non-local purchases	Total all purchases
	No.	%	$	$	$	$	$	$
Grocery stores......	215	17·0	101,354	46,365	51,323	199,042	349,240	548,282
Fruit stores.........	28	32·0	13,427	8,180	6,885	28,492	67,227	95,719
Meat shops..........	74	18·0	25,148	8,960	22,824	56,932	41,897	98,829
Independent chain...	17	35·0	4,858	2,181	3,442	10,481	26,346	36,827
	334	....	144,787	65,686	84,474	294,947	484,710	779,657
Stores located on By Ward Market......	18	44·0	57,155	8,320	15,441	80,916	223,701	304,617
Total value.....	352	....	201,942	74,006	99,915	375,863	708,411	1,084,274

*Preliminary report subject to revision.
†Ontario Department of Agriculture.

Of these total purchases, non-local made up 65·1 per cent valued at $708,411, while local purchases of fruits, vegetables and potatoes were valued at $375,863.

Table 2—Source of Supply of Local and Non-Local Vegetables, Fruit and Potatoes Purchased by all Independent Retail Stores Located in Ottawa (including Stores Located on By Ward Market), October 1, 1936, to September 30, 1937

Source of supply	Local vegetables	Local fruit	Local potatoes	Total local purchases	Non-local purchases	Total purchases vegetables, fruit and potatoes
	$	$	$	$	$	$
By Ward Market	123,644	38,413	35,979	198,037	....	198,037
Growers at store door	66,901	31,429	52,119	150,449	....	150,449
Growers at farm	8,835	938	7,820	17,593	....	17,593
Truckers at door	2,389	1,331	1,778	5,498	24,086	29,584
Ottawa wholesalers and jobbers	172	1,895	2,219	4,286	678,658	682,944
Other sources	....	....	....	....	5,667	5,667
	201,943	74,006	99,915	375,863	708,411	1,084,274
	%	%	%	%	%	%
By Ward Market	61·2	51·9	36·0	53·3	....	17·0
Growers at store door	33·1	42·5	52·2	39·5	....	12·6
Growers at farm	4·4	1·3	7·8	4·7	....	1·5
Truckers at store door	1·2	1·8	1·8	1·4	3·4	2·8
Ottawa wholesalers and jobbers	0·1	2·5	2·2	1·1	95·8	65·5
Other sources	....	....	....	....	0·8	0·6
Total	100·0	100·0	100·0	100·0	100·0	100·0

Table 2 shows total puchases of local vegetables amounting to $201,943, the bulk of which, namely $123,644, was purchased on the Ottawa By Ward Market, with $66,901 being purchased from growers at the store door. Local fruit purchases amounted to $74,006; $38,413 of which was purchased on the By Ward Market, with $31,429 direct from growers at the store door. Potatoes, on the other hand, showed a larger amount being obtained from growers at the door than from sellers on the By Ward Market with $52,119 from the former and $35,979 from the latter.

Wholesalers and jobbers supplied 95·8 per cent of all non-local purchases made by independent retail stores.

NOTES

In reply to a question in the British House of Commons it was stated that a gross increase in home agricultural production of 19 per cent had been achieved during the past six years and that the increase appeared to be continuing.

The value of Canadian merchandise shipped abroad during January was $71,021,829. Empire countries received 59·9 per cent of this, and foreign countries, 40·1 per cent.

Imports during January were valued at $49,719,835, 26 per cent of which came from Empire countries and 74 per cent from foreign sources.

In about 70 per cent of the total wheat area of the Prairie Provinces, the autumn precipitation was either above average or nearly normal. Some of the heaviest rains have fallen in districts which reaped short crops in recent years.

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The
ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE ECONOMICS DIVISION
MARKETING SERVICE
DEPARTMENT OF AGRICULTURE
OTTAWA

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THE ECONOMIC SITUATION

During March and April the monthly wholesale price index for all commodities declined slightly in both months. More favourable prices for wheat during the latter part of March were chiefly instrumental in improving the index for the final week of the month, but the majority of commodities showed appreciable losses.

In April all of the eight groups included in the general wholesale price index showed losses in varying degree, led by the index of Vegetable Products which was influenced by the decline in cash prices of wheat. The index for grains declined nearly 8 points during the month. The decline in animal products prices was much smaller, and the index dropped less than two points. The position of various commodity groups in relation to corresponding positions a year ago reveals the unstable condition of price levels during the interval. The general wholesale index has declined more than 4 per cent, although gains have been shown by animal products as a whole, wood, iron and non-metallic products. Contributing mainly to the decline are vegetable products with a decrease of nearly 10 per cent, and non-ferrous metals, the price index for which declined about 25 per cent. Prices of Canadian Farm Products as a group have fallen by nearly 10 per cent.

The cost of living index advanced fractionally during the two months under review. The figure of 84·3 for April is 2·3 per cent above the level of a year ago and 10 per cent higher than the lowest point in 1933.

Wheat.—Prices averaged considerably lower during March at 138·4 cents a bushel for No. 1 Northern cash wheat, compared with 144·6 cents in February. The market in April was highly irregular and the average price was the same as for the previous month, and incidentally similar to that of April, 1937. During both months prices reacted to political developments in Europe, and to crop forecasts and weather conditions in other producing countries, and in Canada.

A decrease of about 3 per cent in the spring wheat area is indicated by farmers' intentions to plant at 1st May in the report of the Dominion Bureau of Statistics. The intended area will be 24,105,900 acres compared with 24,851,400 acres sown in 1937 and 26,646,100 acres in the peak year, 1932. The chief decrease will be in Saskatchewan, while increases are indicated in Manitoba and Alberta. Durum wheat acreage will be decreased, principally in Manitoba where the decrease will, however, be more than offset by increased sowing of rust-resistant bread wheats.

Volume of Business.—The downward trend of the previous three months in the index of the physical volume of business was halted in March, and the index rose two points over the figure for February to 108·8. Operations were, however, somewhat uneven.

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

Year	Wholesale Prices 1926 = 100				Retail prices and cost of services (5)	Production (6) 1926 = 100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·4	57·1	73·9	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·7	112·3	114·4	82·7	141·3
1937....	84·5	84·5	85·7	84·9	83·1	122·8	120·8	49·4	157·2
1937									
Jan.....	81·3	86·0	88·3	82·1	81·8	116·9	119·4	42·0	162·5
Feb....	82·9	87·0	89·6	82·6	81·9	115·0	117·7	31·4	170·0
Mar....	85·5	90·0	93·4	84·2	82·2	118·7	122·4	37·3	178·6
April...	86·1	91·4	94·4	86·3	82·4	124·0	128·8	62·3	174·3
May....	85·1	87·8	89·0	85·7	82·9	122·0	126·1	53·1	189·3
June....	84·6	83·7	85·1	81·4	82·9	126·0	130·6	29·3	174·1
July....	87·5	92·5	97·7	83·9	83·2	126·5	130·9	45·7	148·2
Aug.....	85·6	84·9	84·6	85·5	83·8	123·4	127·2	57·6	139·9
Sept....	85·0	86·1	84·8	88·4	83·7	123·8	127·5	86·1	136·3
Oct.....	84·7	86·4	86·3	86·5	84·2	127·4	132·6	55·3	137·2
Nov...	83·1	84·0	81·9	87·4	84·2	127·9	133·5	57·2	138·5
Dec....	82·7	84·2	83·9	84·6	84·3	121·4	125·2	35·5	138·9
1938									
Jan.....	83·8	86·3	88·8	82·2	84·1	111·8	113·5	37·6	135·1
Feb....	83·6	85·1	87·5	81·1	83·9	106·7	107·4	25·7	137·2
Mar....	83·1	83·0	83·8	81·7	84·2	108·8	110·2	29·7	133·4
April...	82·3	82,5	83·2	81·2	84·3	114·2	116·6	38·3	135·5

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1935, p. 17.

2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1935, p. 53, and Monthly Mimeographs 1937 and 1938.

3. Wholesale prices of grains, fruits and vegetables.

4. Wholesale prices of Animals and Animal Products.

5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp 181-185, 290-293. 1926 = 100.
Prices and Price Indexes 1913-1935, p. 117, and Monthly Mimeographs, 1937-1938.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.
Yearly index numbers for 1937, subject to revision.

New Zealand.—The total external trade of this country in 1937 was valued at £ (N.Z.) 122,874,074, a gain of nearly £22 million over the preceding year. Exports for the calendar year amounted to £66·7 million, an increase of approximately £10 million over the total for 1936 and more than £20 million in excess of the 1935 figure. As the total for 1936 was a record figure, the year 1937 thus established a new high level. Imports, amounting to £56,160,695, were nearly £12 million higher than the preceding year, and were the highest for any year since 1920. In the annual review of the Department of Industries and Commerce it is stated, "The figures are in striking contrast to those of 1931, when the depression was most severe, and the better returns for our exports have been reflected in greatly improved economic conditions throughout the Dominion."

Among the agricultural products exported, butter, beef (frozen and chilled), lamb, and hides increased in both quantity and value over the preceding year. Decreases in the quantities exported, with however, an increase in the recorded value, occurred in the cases of cheese, pelts, wool and pork, while decreases in both volume and value were recorded for mutton, rabbit-skins, apples and grass seed. Increased exports of dried and preserved milk were recorded at lower values. British countries took 82 per cent of the total exports, as compared with 86·3 per cent in 1936. In both years, Great Britain was the principal buyer.

The imports both in value and by volume were, with few exceptions, higher than those for 1936. Lower quantities and values were recorded for flour, kerosene and newsprint and lower quantities but higher values for tea and motor-spirit. Imports from all British countries increased in volume by 28·4 per cent and represented 73·6 per cent of all imports.

Denmark.—About three-quarters of the agricultural production of Denmark is marketed abroad and only in the case of cattle among the principal export commodities, does the home market absorb more than is sent to foreign markets. During 1937 exports of agricultural products increased about 13 per cent over the preceding year. This increase was due both to increased quantities and higher prices, although in the case of eggs, beef and veal the greater volume played the dominant part. The increase in the value of butter and bacon exports was affected both by rising prices and increased volume. Grain exports—particularly barley—increased both in value and volume, but on the other hand, owing to poor grain yields, Danish farmers had to import more forage in 1937.

Although exports of agricultural commodities increased both in value and volume, the general economic result of the 1936-37 farm operations was not as satisfactory as in 1935-36. On the basis of farm accounts received by the Danish Bureau of Agricultural Economics, the computed net cash yield per hectare declined by about 37 per cent. This was brought about by higher expenditure on green fodder due to rising prices and to higher wages, which offset the extra gross profit from increased commodity prices.

A STUDY OF WHEAT YIELDS IN SOUTH CENTRAL SASKATCHEWAN

G. C. Elliott

The program of making an economic classification of Saskatchewan lands according to their suitability for wheat production was begun in the summer of 1935.(1) In 1937 thirteen municipalities(2) were added to the adjacent fourteen previously covered.

In this economic classification of the land, the determination of a productivity rating for the individual parcel of land is the first approach.(3) This productivity rating represents the probable bushels of wheat which could be expected for sale from the parcel, based on the cultivated acreage and the long time average yield of wheat for the predominating soil type of that parcel.

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1. Conducted by the Economics Division, Marketing Service, of the Dominion Department of Agriculture in co-operation with the Department of Farm Management, University of Saskatchewan, with funds largely supplied by the Prairie Farm Rehabilitation Committee, and the Saskatchewan Research Foundation.

2. The Rural Municipalities of Wheatlands, No. 163; Caron, No. 162; Rodgers, No. 133; Hillsborough, No. 132; Baildon, No. 131; Sutton, No. 103; Lake Johnston, No. 102; Terrell, No. 101; Elmsthorpe, No. 100; Stonehenge, No. 73; Lake of the Rivers, No. 72; Wood Mountain, No. 43; and Willowbunch, No. 42.

3 See proceedings of the ninth annual meeting of the Canadian Agricultural Economics Society for a discussion by Dr. C. C. Spence, Economics Branch, Ottawa, on "The Development of a Technique in Land Utilization Studies."

Wheat yield histories of the period from 1921 to 1936 inclusive were obtained from farmers in the summer of 1937 on representative soil types in south central Saskatchewan. Some facts from a study of this yield data is presented in this article.

A history of the wheat yields of a farm may be fairly satisfactorily determined through recorded interviews with the farmer where wheat is the major source of farm income. The enumerator records on a prearranged schedule the acres seeded and the bushels threshed, or the yield per acre for each year, together with other relevant information associated with these crops. Careful and timely written record of yields from a large and representative number of farmers would give the most reliable information on the past productivity of the land; but since only a small proportion of farmers keep written records, the greater part of this information comes from the farmer's memory. Where the actual yield cannot be recalled by the farmer, he estimates the approximate yield, basing his estimate on the nature of the season, or some other relevant factor. The reliability of this information depends upon the manner in which the enumerator asks the questions and in obtaining a sufficient number of estimates so that the over-estimates closely offset the under-estimates.

To measure the productivity of a certain soil type carefully recorded measurements could be taken of the acres seeded and bushels threshed giving the average yield to a fraction of a bushel. But where great variability exists as between yields on neighbouring farms on the same soil type, due to different cultural practices and management, an average of many farmers' estimates, which are accurate to within two or three bushels, may express the average productivity of the soil type better than the recorded information on only a few farms.

TABLE 1.—THE AVERAGE YIELD PER ACRE OF WHEAT, 1921–1936, FOR THIRTEEN MUNICIPALITIES, AS CALCULATED FROM CROP REPORTS, THE SECRETARY OF STATISTICS, DEPARTMENT OF AGRICULTURE, REGINA, AND AS CALCULATED FROM RECORDED INTERVIEWS WITH FARMERS, ECONOMIC SURVEY, SOUTH CENTRAL SASKATCHEWAN, 1937

Municipality	Number of farms in survey	Average yield per acre of wheat, 1921–1936	
		Economic Survey	Secretary of Statistics
		bush.	bush.
Wheatlands, No. 163	70	10·8	10·2
Caron, No. 162	66	13·3	12·8
Rodgers, No. 133	94	13·5	13·3
Hillsborough, No. 132	25	12·4	13·8
Baildon, No. 131	99	12·3	12·3
Sutton, No. 103	150	13·0	13·3
Lake Johnston, No. 102	70	12·0	12·6
Terrell, No. 101	67	13·3	13·6
Elmsthorpe, No. 100	98	12·4	11·7
Stonehenge, No. 73	148	12·7	12·0
Lake of the Rivers, No. 72	77	13·7	12·2
Wood Mountain, No. 43	43	11·2	10·2
Willow Bunch, No. 42	103	12·0	12·6

A crop reporting system is maintained by the Saskatchewan Department of Agriculture through which the Secretary of Statistics collects and tabulates the average yield of wheat by municipalities. The average municipal yield of wheat collected in this manner affords an interesting comparison with the municipal averages calculated from the economic survey. Table 1 presents the average yield of wheat 1921-36 for thirteen municipalities as calculated from crop reports received by the Secretary of Statistics and as calculated from recorded interviews with farmers. There is general agreement between the two averages with the exception of municipalities 132 and 72. In the former municipality, the average yield is 13·8 bushels per acre according to the crop reports and 12·4 from the economic survey. This difference may be due to the number of usable recorded interviews being too small to give an average yield of wheat representative of the entire municipality. In Municipality 73 the average yield from the economic survey was 1·5 bushels greater than the average from the crop reports of the Secretary of Statistics. A disproportionate number of interviews were recorded for farms on the heavier textured soil of the municipality. The two sources of information gave exactly the same yield per acre in Municipality 131.

In calculating the productivity index for each parcel of land it is necessary that the yield data be grouped and averages calculated according to soil type. The yield data supplied by the Secretary of Statistics do not lend themselves to such analysis and hence the need for collecting data which can be related to soil and other physical factors.

Variability of Wheat Yields.—Wheat farming in Southern Saskatchewan is characterized by extreme variability in the yield of wheat as between farms in the same season and on the same farm from year to year. Periods of relatively high yielding crops are often followed by periods of very poor crops. The average yield of wheat from 1921-28, 1921-36; and the per cent the 1929-36 is of the 1921-28 average yield grouped by municipalities is presented in Table 2.

It is of significance to note that during the eight years of drought from 1929 to 1936, the average yield of wheat in thirteen municipalities was 5·6 bushels to the acre which is only 28·6 per cent of the average yield during the same number of years from 1921 to 1928. There were important differences in the constancy with which farms located in the various municipalities continued to yield during the period of drought from 1929 to 1936. The average yield in Municipality 162 during this period was 43 per cent of the average yield in the years of more favourable moisture conditions from 1921 to 1928. Municipalities 73 and 42 produced approximately one-fifth of the wheat per acre from 1929 to 1936 that they produced in the preceding eight years. This variability of yield between municipalities is largely traceable to differences in the texture of the soil. Table 3 presents the average yield of wheat from 1921-36, 1921-28 and 1929-36; and the per cent the 1929-36 is of the 1921-28 average yield, grouped by principal soil groups.

TABLE 2.—THE AVERAGE YIELD OF WHEAT FROM 1921–1928 and 1929–1936 AND THE PER CENT THE 1921–1936 IS OF THE 1921–1928 AVERAGE YIELD, BY MUNICIPALITIES, ECONOMIC SURVEY, SOUTH CENTRAL SASKATCHEWAN, 1937

Number of Municipality	Number of farms	Average yield of wheat		Percentage 1929–36 is of 1921–28 average yield of wheat
		1921–28	1929–36	
		bush.	bush.	%
163	77	16·6	4·8	28·9
162	66	18·6	8·0	43·0
133	94	21·1	6·0	28·4
132	25	17·1	6·6	38·6
131	99	18·3	6·3	34·4
103	150	20·3	5·7	28·1
102	70	18·4	5·5	29·9
101	67	20·1	6·6	32·8
100	98	19·3	5·6	29·0
73	148	20·6	4·4	21·4
72	77	21·5	6·1	28·4
43	43	18·3	4·3	23·5
43	103	19·9	4·3	21·6
All municipalities	1,117	19·6	5·6	28·6

TABLE 3.—THE AVERAGE YIELD OF WHEAT FROM 1921–1936, 1921–1928 and 1929–1936; AND THE PER CENT THE 1929–1936 IS OF THE 1921–1928 AVERAGE YIELD BY PRINCIPAL SOIL GROUPS, ECONOMIC SURVEY, SOUTH CENTRAL SASKATCHEWAN, 1937

Soil groups	Number of farms (1)	Average yield of wheat			Per cent 1929–36 yield is of 1921–28 average yield of wheat
		1921–36	1921–28	1929–36	
		bush.	bush.	bush.	%
Light brown coarse sandy loams (2)	24	7·0	10·7	3·0	28·0
Light brown fine sandy loams (3)	43	9·8	15·9	3·9	24·5
Light brown clay loam (gravelly) (4)	37	11·6	18·5	5·2	28·1
Light brown loam and light brown "Blow Out" loam (5)	23	11·6	18·4	5·0	27·2
Light brown loams (6)	153	11·7	18·8	4·7	25·0
Light brown clay and clay loam (7)	35	12·0	18·3	5·9	32·2
Light and dark brown loam (8)	24	12·5	19·8	5·6	28·3
Light brown heavy loams, and clay loam (9)—					
District A	304	12·4	19·3	5·4	28·0
District B	213	13·4	21·3	5·4	25·3
Light and dark brown clay loam and loam (10)	30	14·5	21·0	7·5	35·7
Light brown clays (11)	108	14·9	22·4	7·5	33·5
Dark brown clays (12)	53	14·9	20·5	9·2	44·9

Soil Survey Report No. 10, Department of Soils, University of Saskatchewan, was frequently consulted in preparing this article.

1. Soil types with insufficient number of farm records to give adequate samples omitted from this table.
2. Predominantly Hatton coarse sandy loams.
3. Predominantly Hatton fine sandy loams.
4. Haverhill clay loam (gravelly).
5. Haverhill and Echo loam.
6. Predominantly Haverhill loam.
7. Sceptre clay and Haverhill clay loam.
8. Haverhill and Cypress loam.
9. Haverhill heavy loam, clay loam, and clay loam and loam, District A includes R.M. 163, 162, 132, 131, 103, 101, 100, 72, 43. District B includes R.M. 133, 103, 73.
10. Haverhill and Weyburn clay loam and loam.
11. Sceptre clay and heavy clay.
12. Regina clay and heavy clay.

A close association between the texture of the soil and the 1921-36 average yield of wheat is shown in Table 3. The average yield ranges from 7·0 bushels to the acre on the light brown sandy loam soils to 14·9 bushels on the clay soils. The yield of the dark brown clay soils held up during the drought period to a marked degree when compared with other soil groups, the 1929-36 average being 44·9 per cent of the 1921-28 average yield per acre, while the corresponding percentage on the light brown sandy loams and the light brown loams were 24·5 and 25·0 per cent respectively.

Variability of 10,960 Wheat Crops 1921-36.—Out of 1,117 farm records collected in the summer of 1937, there were 685[4] records with wheat yield information complete for each year from 1921 to 1936. This makes possible a study of 10,960 seeded crops. Should five bushels or less be considered a crop failure and 30 bushels a bumper, of 10,960 wheat crops seeded in south central Saskatchewan from 1921 to 1936, 30·2 per cent were failures and 4·2 per cent were bumpers—Table 4. In Municipality 162, which showed the least variability of yield between the drought period from 1929 to 1936 and the preceding eight years (Table 2), 17·4 per cent of the crops grown from 1921 to 1936 were failures, while in the adjacent Municipality 163 there were twice as many failures, 37·5 per cent during the same period. Heavy textured soils are prevalent in

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[4] There were 432 records omitted because the farmers could not give yield information by years, but gave an estimated annual average yield for two to six years.

Municipality 162 while the soil in Municipality 163 is predominately light in texture. In three other municipalities, 73, 43 and 42, located in the more southerly part of the province, one-third of the crops seeded from 1921 to 1936 were failures.

A distribution of the 10,960 wheat crops according to yield and by year is shown in Table 5. In the period 1921-28, 4·7 per cent of the crops seeded were failures and 8·4 per cent were bumpers, while from 1929 to 1936 over one-half, 55·6 per cent yielded five bushels or less, and there were no crops of wheat yielding over 30 bushels to the acre. It is significant the percentage of the total crops that were failures in the period of comparatively high average yields from 1921 to 1928, due chiefly to causes other than drought, such as hail, rust and insect pests. The least number of failures reported during this period was in 1925 when 2·3 per cent of the seeded crops failed. In 1927, 9·2 per cent of

TABLE 4.—DISTRIBUTION OF 10,960 WHEAT CROPS ACCORDING TO YIELD 1921 TO 1936 AND BY MUNICIPALITY' ECONOMIC SURVEY, SOUTH CENTRAL SASKATCHEWAN, 1937

Number of municipality	Bushels per acre						
	0–5	6–10	11–15	16–20	21–25	26–30	Over 30
	%	%	%	%	%	%	%
163	37·5	21·6	12·5	15·0	6·0	4·2	3·2
162	17·4	25·9	22·1	19·1	8·8	4·6	2·1
133	26·8	18·8	13·5	15·2	11·9	9·9	3·9
132	16·8	29·3	22·6	17·8	17·7	1·5	4·3
131	25·7	20·5	16·3	16·7	11·4	6·7	2·7
103	28·9	21·1	12·8	15·4	9·3	7·0	5·5
102	30·8	21·9	12·9	17·4	8·5	6·0	2·5
101	25·1	20·6	13·3	15·4	12·0	9·0	4·6
100	29·5	22·1	14·0	15·8	7·1	6·7	4·8
73	35·8	16·4	8·2	13·8	13·0	7·7	5·1
72	28·6	20·3	12·2	12·6	11·8	10·0	4·5
43	45·0	12·8	10·2	11·2	10·8	6·5	3·5
42	36·6	17·8	8·8	12·0	12·5	7·8	4·5
All municipalities	30·3	20·1	12·9	15·0	10·3	7·2	4·2

TABLE 5.—DISTRIBUTION OF 10,960 WHEAT CROPS ACCORDING TO YIELD 1921 TO 1936 AND BY YEAR, ECONOMIC SURVEY, SOUTH CENTRAL SASKATCHEWAN, 1937

Year	Bushels per acre						
	0–5	6–10	11–15	16–20	21–25	26–30	Over 30
	%	%	%	%	%	%	%
1921	6·4	15·6	19·3	33·0	14·2	9·0	2·5
1922	3·2	7·6	14·4	25·8	19·0	15·5	14·5
1923	3·6	8·0	16·9	31·9	21·2	12·7	5·7
1924	4·5	10·4	20·9	32·4	20·1	8·6	3·1
1925	2·3	6·3	14·9	31·2	26·6	14·5	4·2
1926	5·7	8·2	17·1	24·8	22·6	14·7	6·9
1927	9·2	14·2	20·6	25·1	19·4	8·6	2·9
1928	2·5	1·9	4·7	14·0	18·5	31·0	27·4
1921–28	4·7	9·0	16·1	27·4	20·1	14·3	8·4
1929	55·8	34·0	7·7	1·9	0·3	0·3	....
1930	50·4	38·1	9·9	1·5	....	0·1	....
1931	85·8	11·4	2·0	0·7	0·1	....	....
1932	48·6	30·7	15·0	4·5	1·2	....	....
1933	64·1	27·9	7·0	0·9	0·1	....	....
1934	65·8	27·6	4·7	1·8	0·1	....	....
1935	28·6	44·4	19·6	6·6	0·7	0·1	....
1936	46·9	36·2	11·4	4·2	1·3	....	....
1929–36	55·6	31·3	9·7	2·8	0·5	0·1	....
1921–36	30·3	20·1	12·9	15·0	10·3	7·2	4·2

the crops studied yielded five bushels or less per acre. The season of 1928 was the bumper crop year in southern Saskatchewan, when 27·4 per cent of the crops seeded yielded more than 30 bushels to the acre. The most failures were reported in 1931 when 85·8 per cent of the wheat crops yielded five bushels to the acre or less.

From the viewpoint of land classification it is important to know the association between the soil and the yield of the crops grown on that soil over a period of years. Table 6 is a distribution of 10,224 wheat crops according to yield 1921 to 1936 by principal soil groups. Crop failures in this period were closely associated with the texture of the soil on which the crops were seeded. More than one-half, 52·4 per cent of the crops seeded from 1921 to 1936 on the light brown fine sandy loam soil yielded five bushels per acre or less. No bumper crops were reported on this soil type. On the dark brown clays, 14·6 per cent of the crops have been failures since 1921.

TABLE 6.—DISTRIBUTION OF 10,224 (1) WHEAT CROPS, ACCORDING TO YIELD 1921 TO 1936, BY PRINCIPAL SOIL GROUPS, ECONOMIC SURVEY, SOUTH CENTRAL SASKATCHEWAN, 1937

Soil groups	Bushels per acre						
	0–5	6–10	11–15	16–20	21–25	26–30	Over 30
	%	%	%	%	%	%	%
Light brown coarse sandy loams	52·4	19·9	17·2	6·6	3·5	0·4	....
Light brown fine sandy loams	42·3	19·0	12·0	12·5	8·8	3·6	1·8
Light brown clay loam (gravelly)	29·3	21·1	12·5	14·8	9·8	8·6	3·9
Light brown loam and light brown "Blow Out" loam	34·0	21·0	16·5	13·8	8·0	3·6	3·1
Light brown loams	34·4	20·4	9·9	15·0	9·7	7·4	3·2
Light brown clay and clay loam	32·8	20·2	13·7	12·8	8·9	8·3	3·3
Light and dark brown loam	37·4	14·6	11·5	9·4	10·9	11·5	4·7
Light brown heavy loams and clay loam	29·4	20·0	12·7	15·1	10·8	7·2	4·8
Light and dark brown clay loam and loam	20·5	23·3	12·8	18·7	11·0	8·6	5·1
Light brown clays	20·6	23·5	12·9	14·9	13·4	9·0	5·7
Dark brown clays	14·6	18·3	22·1	23·7	12·1	7·1	2·1

(1) Soil types with insufficient number of crops to give adequate samples are omitted from this distribution.

SUMMARY

The history of wheat yields for a sixteen-year period 1921-36 on a large and representative number of farms in thirteen municipalities in south central Saskatchewan was obtained in an economic survey of the area in 1937 in connection with the classification of the land on its use capabilities. In the thirteen municipalities the average yield of wheat for the last eight years 1929-36 (excluding 1937) of 5·6 bushels per acre was but 28·6 per cent of the average yield obtained in the preceding eight-year period 1921-28. Of 10,960 wheat crops seeded from 1921 to 1936, 30·2 per cent were failures and 4·2 per cent might be described as bumpers. The most failures were reported in 1931 when 85·8 per cent of the seeded crops failed. A study of yield histories shows an association between the texture of the soil and the average yield of wheat. The yield of the dark brown clay soils held up during the drought period to a marked degree when compared with lighter textured soils. Crop failures were closely associated with the texture of the soil on which the crops were grown.

FARMERS' BUSINESS ORGANIZATIONS IN CANADA, 1936-37

A. E. Richards

Farmers' co-operative business organizations occupy an important position in the marketing of Canadian agricultural products. The financial position and volume of business are summarized in the accompanying tables. It may be pointed out that the financial year of many co-operatives does not end with the calendar year. The marketing of fruit and grain, for example, extends for several months into the succeeding year and while the statistics apply to the 1936 crop, the financial statement and annual reports with respect to such marketings were not available until the latter part of 1937.

During 1937, the Economics Division, Dominion Marketing Service, received returns from 1,024 farmers' business organizations which were active in 1936. This was an increase over the previous year. Returns from Nova Scotia, Quebec, Ontario and Saskatchewan were received chiefly through provincial officials. In the other provinces, questionnaires were mailed direct from Ottawa. The majority of the organizations included have been incorporated under provincial co-operative acts.

The 1,024 organizations have 2,963 branches which combined make a total of 3,987 places of business engaged in the marketing of farm products and the purchase of supplies for farmers. Shareholders and members financially interested numbered 396,918 and patrons were estimated to number 451,231. These organizations range in size from the small club serving local needs to the large association with a Dominion-wide field of activity.

Total assets after deducting provision for bad debts and depreciation amounted to $87,938,453 of which the book value of plant and equipment was $36,338,952. The members' equity amounted to $51,252,828 consisting of paid-up share capital $9,265,747 and reserves and surplus of $41,987,081. This was an increase of $166,137 in net worth over 1935. Current assets amounted to $29,990,700 compared with current liabilities of $10,293,661 or in other words the co-operatives as a whole had $2.91 of assets which could readily be turned into cash covering each dollar of current debt. From 1935 to 1936 total working capital increased from $17,541,304 to $19,697,039. The favourable relation of net worth to total assets was maintained at 58 per cent. These tests indicate a sound financial structure from a current and long time point of view.

Sales of farm products amounted to $157,031,405, sales of supplies $16,363,966 and other revenue $531,746 or a total business of $173,927,117. The total volume of business increased by $15,761,552.

Marketing.—Available records indicate that the most important early activity of farmers in the field of co-operation in Canada was directed towards the marketing of farm products. In comparing the volume of business, marketing associations transact twelve times the business handled by purchasing agencies. Membership in the co-operative marketing associations is given as 357,798 persons as compared with 38,167 members in purchasing organizations.

Within the marketing group the grain and seed co-operatives which include the wheat pools of Western Canada have the largest membership and investment and exceed all other commodity groups in volume of business, which is estimated at $110,826,433 for the year under review. A membership of 190,576 grain growers contributed to this business through 2,156 co-operative marketing agencies. Mainly through deductions from the selling price of their grain, these members have invested $37,109,909 in their business and in addition have paid up $3,467,754 in share capital. Combined assets total $68,456,819.

One hundred and forty-six dairy co-operatives with 428 depots in Canada reported a membership of 49,796 with assets valued at $5,077,441. Paid-up share capital amounts to $1,962,202 with reserves of $948,634. Sales of dairy products totalled $16,328,900 for the year under review.

The records for 115 live stock shipping and marketing associations show a combined membership of 46,719. Financing of these associations is mainly by membership fees and commissions. Assets are comparatively low with value of plant and equipment amounting to $560,053. This accommodated a business of $15,713,236. The live stock co-operatives undertake very little processing of their product. Their main activity is the assembling of live stock in cars at producing points for shipment to central markets.

A large part of the fruit and vegetable crop is marketed through 129 co-operative agencies with a combined membership of 12,170 fruit growers. Assets for all companies total $3,904,030; reserves and surplus amount to $896,538. Sales of fruits and vegetables during the year amounted to $8,192,975 which, together with supplies and other revenue, gave a total business of $9,709,738.

Poultry producers have organized in each of the provinces to sell their products co-operatively. There were 57 associations with 280 places of business which reported a membership of 34,868 members. Assets amount to $533,193 with reserves of $209,241. Sales for the year amounted to $3,282,693.

Practically all the wool marketed co-operatively in Canada is handled by the Canadian Co-operative Wool Growers Limited. The Company operates in each province through the medium of 18 sheep-breeders' and wool-growers' associations. The co-operative stores grade and market the wool received from its 8,000 patrons. In addition, it carries on advertising and educational work and handles materials and supplies for its members. The quantity of wool handled by the co-operative during the year amounted to 4,000,000 pounds.

In Ontario and Quebec, the honey producers are organized co-operatively with a combined membership of approximately 1,800. Two tobacco co-operatives in Ontario and three in the province of Quebec report a total membership of 1,382 and sales of approximately a half million dollars for 1936. The Producteurs de Sucre et Sirop d'Erable de Québec, with a membership of 1,988, is organized on a co-operative basis. During the year under review the sales value of maple products marketed by this Association amounted to $456,048.

For years the Canadian National Silver Fox Breeders' Association has been engaged in the inspection of silver foxes for registration and the marketing of silver fox pelts in all the provinces of Canada. Sales of silver fox and other furs by this Company amounted to one and one-half million dollars in 1936. Operating within the province of Nova Scotia, the Nova Scotia Silver Fox Breeders' Association grades, warehouses and markets fox pelts for its members in addition to carrying on valuable educational and field service work. Sales for the year under review amounted to approximately a quarter million dollars.

Purchasing.—Five hundred and fifteen associations organized for the purpose of purchasing farm supplies and merchandise on the co-operative plan reported their activities during 1937. These consumer associations, of which nearly one-half are established in the province of Saskatchewan, have a combined membership of 38,167. The sales value of supplies handled during the year by associations organized exclusively for handling supplies, amounted to $12,304,994. In five of the provinces co-operative wholesale buying societies purchase goods for their shareholder associations.

Within the miscellaneous group is included the Consumers' Refineries Co-operative Association Limited, Regina, Saskatchewan, which was incorporated in 1935 for the purpose of manufacturing petroleum products and selling them on a wholesale basis to local co-operative organizations throughout Saskatchewan. The co-operative completed its second year of operation successfully with sales amounting approximately to one-half million dollars.

Further information may be obtained from the accompanying tables.

FARMERS' BUSINESS ORGANIZATIONS IN CANADA, 1936-37

Provincial Grouping

Province or Function	Associations	Places of business	Shareholders	Patrons	Total assets	Value of plant	General liabilities	Paid-up share capital	Reserves and surplus	Sales of farm products	Sales of supplies	Total business including other revenue
	No.	No.	No.	No.	$	$	$	$	$	$	$	$
Prince Edward Island	10	61	8,760	9,245	71,688	38,949	19,825	14,710	37,153	1,320,138	169,438	1,490,599
Nova Scotia	54	86	5,997	10,172	1,680,763	602,877	967,756	407,074	305,933	1,319,542	1,343,859	2,683,761
New Brunswick	23	69	3,966	9,760	406,157	126,136	287,357	93,310	25,490	832,410	405,671	1,241,303
Quebec	346	783	38,859	38,859	4,940,070	2,202,535	2,896,549	796,124	1,247,397	9,501,821	3,062,760	12,693,528
Ontario	151	179	29,432	40,224	3,389,592	1,298,134	1,503,550	1,146,975	739,067	14,645,850	3,005,416	17,718,146
Manitoba	42	339	45,691	48,934	3,965,904	2,282,328	3,261,185	279,102	425,617	11,171,854	698,598	11,830,588
Saskatchewan	280	1,384	152,757	138,594	39,717,441	16,016,598	12,840,627	1,137,435	25,739,379	61,570,777	3,392,046	65,069,752
Alberta	47	547	63,216	68,515	19,958,651	6,016,876	9,514,293	362,146	10,082,212	26,763,471	969,073	27,791,698
British Columbia	65	71	13,850	16,246	4,171,384	1,473,006	1,440,871	1,722,158	1,008,355	7,887,137	1,781,675	9,755,365
Interprovincial	6	468	34,390	70,662	9,636,803	6,281,513	3,953,612	3,306,713	2,376,478	22,018,405	1,625,331	23,652,377
Totals, Canada	1,024	3,987	396,918	451,231	87,938,453	36,338,952	36,685,625	9,265,747	41,987,081	157,031,405	16,363,966	173,927,117

Functional and Commodity Grouping

Province or Function	Associations	Places of business	Shareholders	Patrons	Total assets	Value of plant	General liabilities	Paid-up share capital	Reserves and surplus	Sales of farm products	Sales of supplies	Total business including other revenue
Marketing—												
Dairy products	146	574	49,796	69,403	5,077,441	2,308,128	2,166,605	1,962,202	948,634	16,328,900	220,895	16,621,612
Fruits and vegetables	98	129	12,170	15,157	3,904,030	1,807,693	2,115,528	891,964	896,538	8,192,975	1,412,846	9,709,738
Grain and seed	35	2,156	190,576	190,389	68,456,819	29,006,591	27,879,156	3,467,754	37,109,909	109,354,860	1,464,938	110,826,433
Live stock	115	198	46,719	73,066	1,171,255	560,053	361,946	629,854	179,455	15,370,509	296,501	15,713,236
Poultry	57	280	34,868	18,220	533,193	115,117	252,445	71,507	209,241	3,282,693	43,011	3,342,930
Honey	3	3	1,858	645	129,968	4,183	89,116	30,081	10,771	272,492	24,000	296,492
Maple sugar	2	2	1,988	1,988	340,683	240,762	157,585	57,082	126,016	456,048	....	456,048
Tobacco	5	5	1,382	1,127	407,765	122,901	41,302	76,702	289,761	539,658	....	542,061
Wool	2	20	2,139	8,058	349,486	72,113	55,976	116,240	177,270	878,535	53,953	933,624
Fur	2	2	890	5,000	50,111	5,422	9,068	....	41,043	1,822,644	21,129	1,848,474
Miscellaneous	8	20	15,412	15,429	3,574,982	1,087,190	2,459,032	644,502	471,448	117,123	....	201,276
Totals, Marketing	473	3,389	357,798	398,422	83,995,733	35,330,153	35,587,759	7,947,888	40,460,086	156,616,437	3,537,273	160,491,924
Purchasing	515	562	38,167	51,859	3,749,432	903,183	1,017,234	1,229,658	1,502,540	414,968	12,301,994	12,897,782
Miscellaneous	36	36	953	950	193,288	105,616	80,632	88,201	24,455	....	521,699	537,411
Totals, Canada	1,024	3,987	396,918	451,231	87,938,453	36,338,952	36,685,625	9,265,747	41,987,081	157,031,405	16,363,966	173,927,117

*Not including co-operative insurance companies, credit societies, telephone co-operatives and farmers' institutes.

ADDITIONAL FACTS WITH RESPECT TO THE OTTAWA PUBLIC MARKET

B. A. Campbell

Total sales of perishable farm produce by producers on the Ottawa public market between October, 1936, and September, 1937, have been shown by the recent survey to be approximately three-quarters of a million dollars. Sales by truckers and dealers are not included in this total. Of the total sales by producers, only 50 per cent were to consumers. On the one hand, sales of potatoes and vegetables were largely to wholesale buyers, only 38 per cent being to consumers, while on the other hand sales of eggs, live and dressed poultry, butter and meat were largely to consumers, only 25 per cent being taken by wholesale buyers.

Independent retail storekeepers constituted the largest group who bought at wholesale prices. They purchased 19 per cent of all the farmers' produce; wholesalers and jobbers took 12 per cent; chain stores, 2 per cent; and 17 per cent went to other buyers such as pedlars, hucksters, hotels and out-of-town customers.

Although wholesaling and retailing is carried on at the same market, the time of the transactions tends to make two different types of markets. Wholesale buying is done generally before nine o'clock in the morning, as the storekeepers and other wholesale buyers must obtain an early supply of fresh produce for the day's business. The growers in the southern section of the market east of the market square cater more to this wholesale trade as is shown by the fact that these growers averaged only 8 hours selling time on the market, whereas the growers selling on the west side of the market square averaged 12 hours, and those on the west side of the new market building averaged 11 hours. The growers who spent the longest time on the market preferred to sell in small lots to consumers, even though they must stay on the market all day, because by selling at retail they obtained higher prices for their produce.

In order to maintain a display of produce all day and to compete with hucksters, some growers found it necessary to buy produce of both domestic and imported nature. The placing of the hucksters in a separate section from the growers, which has been recently introduced on the Ottawa Market, will likely make the purchase of produce by growers unnecessary. In some markets in Ontario it has been found advisable to see that all the produce which is sold by growers on the growers' section is produced by the seller. In other markets in Ontario, the opinion prevails that hucksters, especially those selling imported produce, help to attract retail buyers to the market without necessarily injuring the sales of the local growers. It would appear that the practice to be followed in any market is a matter for the individual market to determine by actual experience, because conditions may vary on different markets.

A market facility found at some city retail markets is an enclosed, covered, well-lighted space where producers sell such commodities as eggs, dressed poultry and dairy products. In Ottawa these products are sold in the uncovered outside market. If a facility of this type were added to the retail markets where it does not now exist, consumers who desire this type of produce might be attracted in larger numbers. A facility of this kind should not be more than one story and should be well lighted and ventilated and capable of being heated in the winter. It should have selling tables of uniform size, wide selling aisles and numerous entrances. Seats for producers may be also desirable.

The proportion of retail and wholesale buying on any market is largely a question of the size of the city concerned. It was found in a recent survey of Ontario markets that the tendency is for the markets in the larger cities to have the highest percentage of wholesale business. As cities grow in size, new retail markets are created and markets which are strictly wholesale are developed because of the increase in retail store buyers who must have supplies to satisfy their customers. Toronto, for example, has several retail markets and plans are now under way for the creation of a new modern wholesale market for fruits and vegetables in that city. Ottawa has one large centrally-located market where produce is sold both at wholesale and at retail, and a very small market which operates 5½ months of year in the West End of the city and which is used chiefly by consumers. Anticipating the time, which is imminent, when Ottawa will expand to a size necessitating a specialized wholesale terminal market, it would appear to be wise to make plans at the present time for such a facility, with accommodation for increasing arrivals of produce by rail and motor truck.

AGRICULTURAL POLICY IN AMERICA, 1938

The Agricultural Adjustment Act of 1938, which was approved on February 16, continues and enlarges in some measure the scope of the provisions of the Soil Conservation and Domestic Allotment Act under which about 4 million farmers took part in the agricultural conservation programs of 1936 and 1937. A summary of policy under this Act appeared in the Economic Annalist of December, 1936, and December, 1937. The chief new features of the Act of 1938 are: provision for systematic storage of food and feed surpluses; marketing quotas for commercial producers of cotton, wheat, corn, tobacco and rice in a program designed to hold surplus supplies of these commodities off the market until they are needed; release of such supplies withheld under marketing quotas to meet any shortage; crop insurance for wheat, starting with the 1939 crop.

While the voluntary soil-conservation program is continued as a part of permanent farm policy, provision is made to set the levels of national acreage allotments to give ample production for domestic consumption, for exports, and for reserve supplies, and payments will be continued to farmers in order to keep production in accordance with these levels. Products are subject to national allotments which are apportioned to the States according to past production. These allotments in turn are allocated to counties on a similar basis and among producers according to tillable acreage, crop rotation practices, type of soil and topography.

When supplies of cotton, wheat, corn, tobacco or rice, threaten to accumulate in excess of the annual amounts specified in the Act, marketing quotas may be established under which farmers may not market more of any of these commodities than their individual quota allotment. No action with regard to marketing quotas, however, may be taken without a referendum of producers and to make quotas effective at least two-thirds of the producers polled must cast a favourable vote. The portion of the product above the marketing quota must be stored by the grower and to assist in this, loans are to be granted to defray storage charges. Producers making sales in excess of their marketing quotas are subject to penalties based on the excess quantity of the product sold. If a favourable vote is recorded, marketing quotas apply to all producers throughout the country, except those growing the products in less than commercial quantities.

Since the Act was approved, referendums among growers of two products have been held—cotton and tobacco. In each case the required two-thirds majority of growers was recorded. The majority in the cotton referendum which included producers in 19 states was 92·1 per cent favourable, while the growers in the principal cotton growing areas recorded an even more favourable decision. Eighty-six per cent of the flue-cured tobacco growers voted for marketing quotas and the returns in the dark tobacco referendum showed 80·6 per cent of the producers prepared for marketing regulation. Among the growers of burley tobacco the vote was 87 per cent favourable.

Of particular interest is the crop insurance for wheat provided for under the Act. This begins with the crop planted for harvest in 1939 and covers losses of yield resulting from drought, flood, hail or other weather hazard, and from insect pests and plant diseases. Not less than 50 per cent nor more than

75 per cent of the average yield of wheat on insured farms will be covered by this insurance. Under the plan which is voluntary, insured farmers will be paid the amount of actual wheat, or its cash equivalent, by which their yields in short crop years fall below the insurance coverage. Premiums which, like claims, are payable either in wheat or in its cash equivalent, will be determined on the basis of the average losses in yield, over a representative period, on the insured farm and on all farms in the county in which the farm is located. Since amounts of losses are determined in terms of wheat, the protection is given against losses of yield rather than price declines. The wheat premiums will gradually accumulate as part of the Ever-Normal Granary supply of wheat and over a period of years will, of course, fluctuate in quantity according to the success or partial failure of the national wheat crop. Under average conditions it is estimated that such accumulations may in time total from 50 to 100 million bushels, if farmers participate generally in the crop insurance plan.

The wheat crop insurance will be administered by the Federal Crop Insurance Corporation, a new body created for the purpose but with this exception, the provisions of the new Act will be carried on locally through existing community and county committees which have performed these duties in the soil-conservation programs of 1936 and 1937.

CONSUMPTION OF EGGS IN FARM HOMES IN CERTAIN DISTRICTS OF CANADA

W. C. Hopper

During the progress of the surveys on milk and cheese consumption which were conducted in certain districts of Canada in 1935, householders were asked questions with reference to their consumption of eggs. Figures on the per capita consumption of eggs, as reported by housewives in a number of cities of Canada, have already been presented in the issue of the Economic Annalist for April 1937.

The data herein presented refer to the use of eggs in 320 farm homes in specified areas in the provinces of Ontario, Quebec and Alberta in 1935 (table 1). The figures given do not include the consumption of eggs in any purchased products such as cakes and biscuits. It is not suggested that these figures represent the average consumption of eggs in all farm homes in the provinces mentioned, but only the average for the farm homes in the areas to which reference is made. While the figures are not necessarily representative of the consumption by farmers as a class, they do give some indication of the use of eggs by certain farmers and their families. It will be observed that the average per family and per capita consumption of the two selected areas of Ontario are very similar. The figures for the two areas in Quebec are also much the same. But the per capita consumption in Ontario was more than twice as large as it was in Quebec, although the consumption per family in Quebec was only slightly smaller than that of Ontario. Quebec families, however, were much larger. The per capita consumption of eggs in the 110 farm homes in the Calgary-Claresholm area of Alberta in 1935 was, on the other hand, nearly twice as large as that of the 111 farm homes in the province of Ontario and nearly 4 times as large as that of the 99 farm homes in Quebec.

Table I.—Consumption of Eggs by Farm Families in Certain Districts of Canada, 1935

Location	Number of families	Number of persons	Annual consumption	
			Per family	Per capita
			dozens	dozens
Ontario—Southern part of Ontario County	62	266	119·4	27·8
Ontario—Southern part of Hastings County	49	216	114·5	26·0
Quebec—Island of Orleans	30	245	105·5	12·9
Quebec—County of Quebec in neighbourhood of Quebec City	69	550	97·2	12·2
Alberta—Calgary-Claresholm District	110	441	183·3	45·7

INTERNATIONAL CONFERENCE OF AGRICULTURAL ECONOMISTS

The fifth meeting of the International Conference of Agricultural Economists will be held at Macdonald College, Ste. Anne de Bellevue, Quebec, August 21-28, 1938. The arrangements for the conference are being made by a committee of Canadian Agricultural Economists working in co-operation with the Conference Executive.

The program will consist of three divisions. First, the presentation of papers and discussion. These include Agriculture and the Rural Community within the nation; Land Tenure and the Social Control of the use of land; Farm Labour and the Social Conditions of the Countryside and the Problems of International Trade in Agricultural Products. Besides these general topics for which ample time for discussion will be provided, a series of short papers will be presented covering a wide range of topics. The third division of the program will consist of special subject discussions or round table discussions of International Statistics of Agriculture, Marketing Trends, Objectives of Agricultural Policy, Trends in Farm Management Research, Development of Research Technique in Consumption of Agricultural Products and the Development of Research Technique in Price Analysis. Other informal group meetings will be arranged including discussion of Milk Marketing Problems and Agricultural Economics Extension.

Bus tours of farming areas in Quebec, Ontario and New York State are being arranged for members visiting Canada.

The Conference has representatives in 23 countries. It is now known that representatives from at least 26 countries will be in attendance.

ECONOMIC LITERATURE

A STUDY OF FLUID MILK PRICES. John M. Cassels, Assistant Professor of Economics, Harvard University. Harvard University Press, Cambridge, Massachusetts, 1937. 207 pages and Appendices.

This book is volume LIV of the Harvard Economic Studies and is a valuable contribution to the literature devoted to the study of fluid milk prices. That such an analysis is no easy task is vividly illustrated by the author's statement that some thirty major factors affect in greater or less measure, the price of fluid milk.

The study covers in a general way the dairy and industrial area of the United States; i.e., that section of the country lying to the north of Louisville and to the east of Minneapolis. The more detailed parts of the study are based on New England data.

The early portion of the book is concerned with the analysis of milk prices in theoretical terms while the latter part is concerned with an analysis of empirical data. The author points out that this was done " partly for the sake of the practical conclusions that might be reached in the light of the theoretical analysis already worked out, and partly for the sake of the light that would be reflected on the theories themselves through their application to the stubborn facts of actual market experience."

Professor Cassels covers his subject most thoroughly, and in the empirical portion of the study, after discussing the collective price bargaining during the years 1917-30 as an introduction to the subject proper, carries the reader through production, consumption, retail demand, dealers' margins and transportation rates and services. Further chapters are devoted to a statistical analysis of production responses, market areas and product zones and price relations. A case study of Boston-New York price relations is included.

In view of the present interest in the dietetic value of fluid milk, much of the analysis, particularly the chapters on consumption and retail demand, is of particular value quite apart from the mere price aspect of the study. In these chapters, as elsewhere throughout the book, Professor Cassels has assembled a vast amount of pertinent matter and has presented it in a most readable and satisfactory manner. The free use of tables and charts add much to the easy presentation of the subject. The trend in certain countries towards regulation of the fluid milk market and the Milk Marketing Schemes in Great Britain add point to the discussion of price plans and bargaining methods in Chapter VI. Price plans of one sort or another have been in effect in most of the principal cities of the United States since the end of the World War and it is interesting to read that Boston had a class-price plan as long ago as 1886, and a base-rating plan from 1901 to 1915.

The appendix contains notes of fifteen important milk sheds and complete tables of the basic data used in the text. A bibliography of a dozen pages completes this exhaustive study.

NOTES

The undernoted bulletins, preliminary articles from which have appeared from time to time in the pages of the ECONOMIC ANNALIST, are now available on request to the Publicity and Extension Division of the Dominion Department of Agriculture, Ottawa:—

An Economic Analysis of Cream Operations in Manitoba, Saskatchewan and Alberta, Publication 605, Technical Bulletin 13.

An Economic Study of the Consumption of Milk and Cream in Certain Urban and Rural Districts of Canada, Publication 608, Technical Bulletin No. 14.

Owing to the increasing significance of Empire-grown tobacco on the United Kingdom market, The Imperial Economic Committee, 2 Queen Anne's Gate Buildings, London, S.W. 1, is publishing a new journal, entitled, *Tobacco Intelligence.* Publication will be made quarterly on the 7th or nearest convenient day of each February, May, August and November. The initial number is May, 1938.

The Canadian Agricultural Economics Society will hold its tenth annual meeting at the Chateau Laurier Hotel, Ottawa, June 27-30. The program on Monday 27th includes papers on " Co-operation " by Whitton Powell, Cornell University and A. E. Richards, Economics Division, Marketing Service, Dominion Department of Agriculture. E. P. Reid, Department of Agriculture, Ottawa, will also present a paper at this session on " The Ottawa Produce Market."

On Tuesday, 28th, H. C. Grant, University of Manitoba, will discuss Provincial Economic Surveys and I. S. McArthur, M. Auger and C. W. Riley will discuss " Types of Farming."

On Wednesday, 29th, papers on the Trade Agreement Program will be presented by C. V. Parker and one other speaker to be selected.

At a dinner meeting Wednesday evening, the 29th, J. Coke will present his Presidential address and H. A. Innis will read a paper entitled " Agriculture in the Canadian National Economy."

Thursday morning, June 30th, W. C. Hopper will lead a discussion on "Consumption of Agricultural Products and Family Budgets " and O. A. Lemieux will preside at a discussion of " The Census of Agriculture." The Society will hold a joint session with the American Statistical Association at which " Weather and Crop Yields " will be discussed.

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The
ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE ECONOMICS DIVISION
MARKETING SERVICE
DEPARTMENT OF AGRICULTURE
OTTAWA

Vol. VIII, No. 4 | Published by Authority of the Hon. James G. Gardiner Minister of Agriculture | August, 1938

THE ECONOMIC SITUATION

Economic conditions in Canada during the first five months of 1938 reacted to the general world economic situation and most of the major indexes declined below the levels of the similar period of last year. The index of the physical volume of business based on 46 factors averaged 110·4 against 119·3 for the first five months of last year, a decline of 7·5 per cent. Of the five main branches included in the index, only mineral production recorded a gain—more than 6 per cent. Although the value of export trade shows a decline of about 20 per cent, this is in some part due to lower prices, which have averaged approximately 2 per cent below those of a year ago.

Despite these declines, a constructive factor has been the higher level of employment, the increase in general averaging 3·4 per cent for the first six monthly reporting dates. The gain in manufacturing was less than one per cent, but an increase of nearly 4 per cent was shown in mining.

The decline in the general level of wholesale prices continued through May and June but in the early part of the latter month there was a clearly discernible stiffening in the prices of certain basic commodities, including rubber and the principal non-ferrous metals. Although there was a decline in the Dominion Bureau of Statistics weekly wholesale price index of 567 commodities, from 80·4 to 79·9 in the final week of June, this was mainly due to sharp recessions in grain markets. The monthly index for June was 80·1 as compared with 80·3 for May.

Grain markets, as is usual at this time of year, responded readily to reports of weather conditions. Beneficial rains in many areas of the Canadian West during the last two weeks of June caused wheat prices to drop sharply.

Cattle markets made substantial gains throughout May and price advances continued during June. This was particularly true of steers and hogs. The price of bacon hogs is considerably above that of a year ago.

Lower prices for fuel, clothing, and sundries, partly offset by moderate gains in foods, resulted in a decline in the general cost of living index in Canada from 84·2 in May to 84·1 in June.

The index of the physical volume of business declined 2 points during May to 110·7, but a number of the component indexes recorded gains. Exports of copper were greater than in any other month, the quantity of nickel exported exceeded any month except May, 1937, and exports of zinc were above seasonal expectations. The manufactured foodstuffs index at 101·4 in May showed a gain of about 5½ per cent over the figure for April. The activities of the meat-packing industry nearly maintained the high level of the preceding month, while the production of creamery butter and the exports of cheese were both greater than any month in recent years.

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

Year	Wholesale Prices 1926=100				Retail prices and cost of services (5)	Production (6) 1926=100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·4	57·1	73·9	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·7	112·3	114·4	82·7	141·3
1937....	84·5	84·5	85·7	84·9	83·1	122·8	120·8	49·4	157·3
1937									
June....	84·6	83·7	85·1	81·4	82·9	126·0	130·6	20·3	174·1
July....	87·5	92·5	97·7	83·9	83·2	126·5	130·9	45·7	148·2
Aug....	85·6	84·9	84·6	85·5	83·8	123·4	127·2	57·6	139·9
Sept....	85·0	86·1	84·8	88·4	83·7	123·8	127·5	86·1	136·3
Oct.....	84·7	86·4	86·3	86·5	84·2	127·4	132·6	55·3	137·2
Nov....	83·1	84·0	81·9	87·4	84·2	127·9	133·5	57·2	138·5
Dec....	82·7	84·2	83·9	84·6	84·3	121·4	125·2	35·5	138·9
1938									
Jan.....	83·8	86·3	88·8	82·2	84·1	111·8	113·5	37·6	135·1
Feb....	83·6	85·1	87·5	81·1	83·9	106·7	107·4	25·7	137·2
Mar....	83·1	83·0	83·8	81·7	84·2	108·8	110·2	29·7	133·4
April...	82·3	82·5	83·2	81·2	84·3	112·4	114·2	38·3	131·9
May....	80·3	77·3	74·6	81·8	84·2	110·7	112·5	41·1	157·8
June....	80·1	76·6	74·3	80·5	84·1	108·3	109·2	20·6	188·3

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1935, p. 17.

2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1935, p. 53, and Monthly Mimeographs 1937 and 1938.

3. Wholesale prices of grains, fruits and vegetables.

4. Wholesale prices of Animals and Animal Products.

5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.
Prices and Price Indexes 1913-1935, p. 117, and Monthly Mimeographs, 1937-1938.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.
Yearly index numbers for 1937, subject to revision.

NOTES

About 169,000 fully employable persons were receiving non-agricultural relief last April, a decrease of 31 per cent from April, 1937, when the total was 245,023.

The gold value of world trade in 76 countries registered a loss of 2·3 per cent from February to March.

THE ORIGIN AND DEVELOPMENT OF THE ECONOMICS DIVISION, MARKETING SERVICE, DOMINION DEPARTMENT OF AGRICULTURE

J. F. Booth

Agricultural economics as an organized service in the Dominion Department of Agriculture had its origin in 1929 with the formation of the Agricultural Economics Branch. Prior to that time some work in this field had been undertaken by units of the Department engaged in other activities but such efforts were very limited, and moreover, lacked co-ordination.

The recognition of this service as a Dominion Government undertaking lagged some years behind the establishment of similar activities in Universites and Colleges of Agriculture. Several provincial governments had also provided their Agricultural Departments with units intended to deal specifically with economic questions, particularly co-operative marketing, before the Economics Branch was created at Ottawa.

While no outline of the functions that should be encompassed by the newly formed service was provided in the authorization for the establishment of the Branch, except that agricultural co-operation was specifically mentioned, correspondence and conferences among those responsible for the undertaking clearly indicate that all of the activities usually associated with such an organization were considered as coming within the scope of service eventually to be provided.

One of the problems facing those responsible for the administration of Dominion and Provincial government services is the matter of jurisdiction and responsibility; admittedly it is difficult at times to decide where the line should be drawn. In the field of research—the principal function of the Economics Branch—no exclusive jurisdiction is recognized. Therefore, to avoid any possibility of conflict or duplication, arrangements have been effected whereby the maximum degree of co-operation and understanding exists between those engaged in agricultural economics research in Canada. In practice this is accomplished by means of Co-ordinating Committees and by the conduct of projects on a co-operative basis. The majority of the studies initiated since the inception of the Branch have been conducted with the active co-operation of provincial institutions, and in many instances with the assistance of other Branches of the Dominion Government. In a number of instances the staff of the Economics Branch have participated in the conduct of projects initiated by Provincial Institutions.

Early Research—Agricultural Co-operation.—One of the initial activities of the Branch was a project to inventory and study the farmers' co-operative organizations in Canada. This project has been carried on annually since its inception. By 1932, a total of 1,759 farmers' associations had been listed. Much detailed data had also been secured covering 400 agricultural organizations with names of officers, membership, affiliations, and other information. This work has expanded over the years and the Branch has published a Directory of Co-operative Associations, as well as two bulletins dealing with Farmers' Business Organizations in Canada.

The initial farm management study undertaken by the Branch was a comprehensive survey of apple production in the provinces of Nova Scotia, Quebec and Ontario. This study was originally planned to cover a three-year period, but has since been extended to include studies of the cost of producing apples in a selected area in Quebec, as well as studying the cost of establishing apple orchards in the same province.

An important development in the early history of the Branch was the introduction of the monthly publication, the "Economic Annalist." Publication commenced in January, 1931, with the object of providing a medium for release of current economic research findings as well as serving as a co-ordinating influence in the field. While it has not been possible to maintain publication on a monthly basis, the "Annalist" has developed and broadened its scope. Pertinent monthly indexes of economic activity have been added as a regular feature in more recent years.

Farm Management and Land Economics.—For a number of years, the Branch was divided into two main divisions of agricultural research: Farm and Ranch Management, and Marketing. The Division of Farm Management conducted studies, chiefly in co-operation with provincial agencies, in a wide variety of fields. A study of the sheep ranching industry in Western Canada was one of the first of these. This investigation involved the collection of records from 140 sheepmen in Saskatchewan, Alberta and British Columbia. The object of this study was to determine the business methods and management practices which were bringing the greatest net returns to ranchers.

The Branch co-operated with the Canadian Pioneer Problems Committee and the Universities of the three Prairie Provinces in the study of farm businesses in the pioneer areas of Western Canada. One of these studies involved an economic analysis of farm power in Alberta and Saskatchewan. Results of these studies have been published in book form by the Pioneer Problems Committee, and in the form of special mineographed reports.

In 1935, the Branch joined with the Nova Scotia Department of Agriculture in a study of agricultural conditons in Antigonish County, Nova Scotia. This study was largely one of land utilization, although some attention was given to the social factors in the county. Altogether, much useful information was obtained to assist in mapping out a farm program for the area, where farming was found to be largely of the subsistence type.

During the same year, a study of potato production in the Saint John Valley of New Brunswick was started as part of a comprehensive study of the potato industry. The study involved the investigation of farm practices, receipts, expenditures, and other related factors. The survey was repeated during the following summer, and a report issued covering the analysis of the data collected.

In the provinces of Saskatchewan and Alberta, the Branch has been co-operating with the provincial universities in the field of land utilization. This work involves detailed study of selected farming areas with a view to determining the most economic use of land. Assistance in this work has been secured from the Prairie Farm Rehabilitation vote and the areas under study have been largely confined to those regions most seriously affected by drought conditions since 1930. The data secured include crop history, taxes and tax arrears, mortgage indebtedness and relief. The whole project is related to soil type as determined by soil surveys conducted in previous years.

In more recent years, these land utilization studies have been continued but greater emphasis has been placed upon land classification and data essential to a program of rehabilitation, than was the case at the inception of the studies. From the data assembled, maps have been prepared showing the boundaries of occupied farms, vacant and abandoned parcels, parcels which have never been occupied, occupier or owner, soil classes, classes according to topography, according to degree of stoniness, boundaries of varying proportions of land cultivated, and the enumerators' rating of farm buildings. A series of these maps have been prepared for the areas under study in such a way that one map may be superimposed over another for comparing associated criteria and arriving at decisions as to where land class divisions should be made. This process is an attempt to determine inductively the boundaries of land classes, according to their best utilization. In the prosecution of this work aerial mapping has been resorted to.

Survey of Dairy Farms.—In 1936 a farm management and milk cost project was started in the Province of Ontario which involves the supervision, closing and analysis of some eight hundred farm account books being kept for three years by Ontario dairy farmers. The project is being carried out on a co-operative basis with the Ontario Agricultural College and the Ontario Milk Producers' League. This study will bring together a wealth of information pertaining to Ontario farm businesses, with particular emphasis on the dairy enterprise.

A project to investigate the progress of settlers in recently settled areas of Northern Quebec and Ontario was commenced in 1937. Data have been collected with a view to providing a clearer understanding of the problems involved in settlement and to determine the best methods of assisting farmers in new agricultural areas.

The Farm Management Division of the Branch is also conducting a statistical study of types of farming in Canada, based on data contained in the census reports of the Dominion Bureau of Statistics. The immediate objective is to map the agricultural areas of the Dominion into regions where productive factors and farm organizations are relatively homogeneous. The areas so mapped are being analysed statistically to study differences in farm organization and practice between the various types of farming areas. This study should provide a background for further farm management research.

An analysis of the factors affecting the production and marketing of pigs in Ontario is now being undertaken in co-operation with the Economics Department, Ontario Agricultural College, and the Dominion Bureau of Statistics.

Marketing.—Reference has already been made to activities in the field of agricultural co-operation. The early studies of the Branch in connection with marketing in general were chiefly associated with the dairy industry. One of the first was an investigation of the marketing of milk in the Sydney-Glace Bay area of Nova Scotia. This study was conducted with the co-operation of the Extension Division of St. Francis Xavier University and the Nova Scotia Department of Agriculture. The purpose of the study was to provide information which would enable a better understanding of the problems involved, and to assure the consumer of a better supply of milk, and at the same time, enable farmers to handle their businesses more profitably. Studies dealing with the operation of cheese factories in the Provinces of Ontario and Quebec were also among the earlier marketing studies. This work was carried on in co-operation with the Dominion Dairy Branch, the Provincial Departments of Agriculture, and the Ontario Agricultural College. The reports deal with the factors affecting the cost of manufacturing cheese, and with other related problems. In New Brunswick, a study of the cost of operating creameries in that province was made in co-operation with the Dominion Dairy Branch and the New Brunswick Department of Agriculture. Later, data on costs of creamery operations in the three prairie provinces were collected and analysed. Reports have been issued on all of these projects.

Studies having to do with consumer demand have been completed in several urban and rural areas, dealing specifically with milk, cream and cheese. Reports have been published on this work pointing out the effect of income and other factors on per capita consumption of these products. Further work along this line has been carried on in connection with the consumption of meats, fish and eggs.

Marketing surveys to study the particular problems of individual markets have been made in Toronto and Ottawa, and a further study is under way in Montreal. The Toronto study dealt with the wholesale fruit and vegetable trade in that city, and was concerned chiefly with determining the facilities necessary for the construction of a modern city market. Both the Toronto and Ottawa studies involved the taking of records from farmers producing for the markets, as well as from the various agencies using the market facilities.

An extensive undertaking designed to determine the cost of distributing fruits and vegetables in representative cities throughout Canada has recently been completed with the co-operation of the produce trade. A bulletin dealing with this project will shortly be released.

TAXATION, CREDIT AND OTHER RESEARCH

The Branch has engaged in a wide variety of special investigations into current economic problems. Three of these studies have been of a major nature. A study of taxation in rural Ontario included a review of provincial and municipal relationships, as well as a detailed study of taxation problems in certain selected rural municipalities of the province. Another study arose out of the arbitration of certain claims for damage by smoke from the Consolidated Smelter Plant at Trail, British Columbia, by farmers living in the adjacent county in the State of Washington, U.S.A. A member of the Economics Branch staff surveyed the situation and prepared a detailed report on the agricultural economic aspect of the claims. At the present time, a comprehensive study of farm loan experience in Saskatchewan is under way, involving the analysis of the farm records of the Saskatchewan Farm Loan Board. This includes a study of the methods of land appraisal and the factors affecting the cost of making loans to farmers in that province.

OUTLOOK SERVICE

The first report dealing with the Agricultural Situation and Outlook was prepared and published early in 1934 as a co-operative undertaking between the various branches of the Dominion Department of Agriculture and certain branches of the Department of Trade and Commerce. The Economics Branch has taken an active part in this work. These reports which appear in January of each year appraise the economic situation as it relates to agriculture and deal specifically with both the domestic and foreign demand for agricultural products. In addition, the report contains individual statements dealing with all of the major agricultural commodities produced in Canada. While reviewing the experience of the past year the "Outlook" is essentially a forward looking report intended to be of service to farmers and others interested in the future of agriculture. The co-operation of the Provinces each year has assured the successful completion and widespread recognition of this report.

Conclusion.—The activities of the Economics Branch during its formative years were designedly confined to fact finding studies, in the main. It was believed that such a program would provide basic information, useful not only in the solution of local problems, toward which the different projects were especially directed, but also, when sufficient data had been obtained, in dealing with questions of a general character. In recent years a number of the research projects undertaken have been associated with the determination of public policies.

During the past year, with the reorganization of the Department of Agriculture, the original Branch became a Division of a co-ordinated Marketing Service. Soon to enter upon its tenth year, the Division's enlarged personnel and widespread scope of activities are evidence of considerable progress, and suggest the possibilities of still greater service on behalf of Canadian agriculture in the years to come.

Figures to the middle of July show that 22,786 head of cattle have been shipped to the British market compared with 4,017 for the similar period last year.

FARM ORGANIZATION IN SOUTHERN ONTARIO

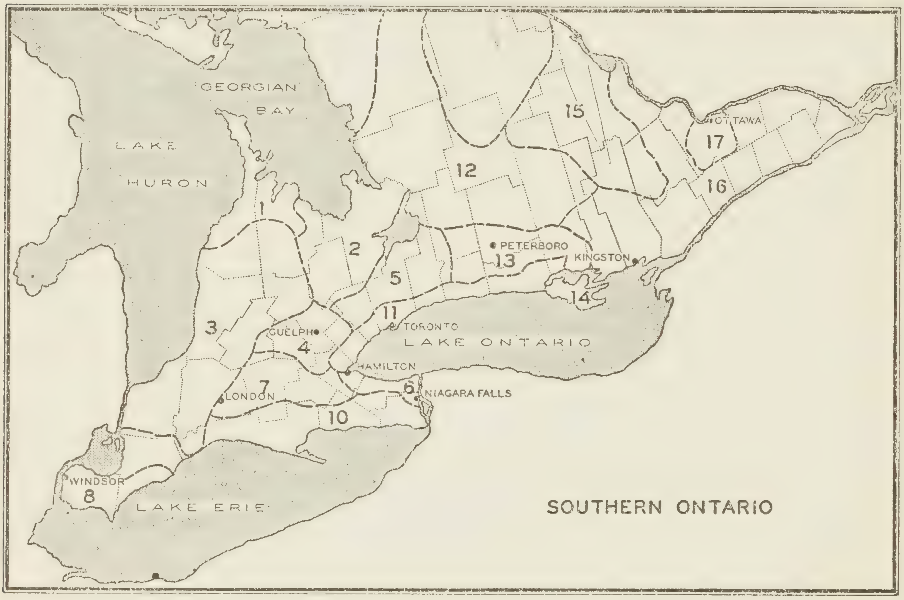
IAN MACARTHUR

As part of a nation-wide study of types of farming in Canada, southern Ontario has been divided into seventeen areas where farming conditions may be considered relatively homogeneous. Naturally differences in the kinds of major farm enterprises do occur on individual farms within areas, but collectively, production is quite closely confined to type. The seventeen individual type of farming areas show a wide variation in the products produced for market and in the general organization of the farm businesses. This variation of farming type within a comparatively small area has been brought about by a number of factors. Fundamental differences of climate, soil and topography have, to a large extent, been responsible for this variation, but other factors such as the available transportation and market facilities have also been important. While it is not necessarily the case, it is generally true that over a long period, farmers in any locality will tend to concentrate their efforts along those lines of production which are most adapted to the productivity of the particular area. This tendency towards specialization in specific lines of production is very noticeable in studying the development of agriculture in Ontario. Areas in which the farming was once considered to be of a mixed or general nature are now definitely specialized in the production of one or more products. A striking example of this change is to be found in Norfolk County (Area No. 10), where general farming has given way in large measure to the production of tobacco and canning crops.

It is not the purpose of this article to deal at length with the background reasons for the development of present day type of farming areas, but rather to present a brief picture of the areas based on the analysis of available data concerning their organization.

The map shows the borders of the areas and indicates what commodities are of major importance in each area, and the table presents a brief statistical record of land utilization, livestock numbers, capitalization and related factors concerning the individual areas. It will be noted that there is a wide variation not only in the occupied acres per farm, but also in the percentage of occupied acreage which has been improved. Considerable variation is also in evidence in the total valuation of farm property and the value per acre.

In the western section of southern Ontario, the type of farming changes from north to south as topography becomes more level and climate less severe. In the northern areas of this section, the farms tend to have a relatively high percentage of unimproved land and lend themselves to grazing or a type of farming based on beef cattle with sheep, hogs and poultry as secondary livestock enterprises; crop production is confined chiefly to feed grains and hay for use on the farms. The more southerly counties of the section, Essex and Kent, tend to be more specialized in crop production, such as corn, sugar beets, tobacco, wheat and market garden crops. Hogs and poultry are the main livestock enterprises. Area 10 is comparable to the Essex and Kent districts, although dairying is somewhat more important in this area. Areas 4, 5, 7 and 13 in the central part of southern Ontario are quite similar from the standpoint of products produced, but vary in degree of specialization and in the relative importance of the various enterprises. Farm organization in these areas is centred chiefly around the dairy enterprise, producing fluid milk for the Toronto and nearby city markets. Area No. 6, owing to the very favourable climatic conditions, is a highly specialized fruit producing area. Area No. 11 caters chiefly to the Toronto market with orcharding, market gardens, dairy and poultry as the main enterprises. Prince Edward County, area No. 14, because of favourable climatic and other factors, has tended to specialize in orcharding, canning crop production and dairying. The large area of eastern Ontario bordered by the St. Lawrence river on the south and the Ottawa river on the north, is known chiefly as a cheese producing area. Adequate acreage of natural pasture and comparatively low land values has led to a relatively high number of cows per farm, and the presence of a large number of cheese factories in the area provides a satisfactory market for the milk. The Ottawa area, No. 17, is set apart, as farmers of this area catering to the Ottawa market, have emphasized the production of fluid milk, market garden crops, potatoes and poultry products. Areas 12 and 15, north and west of Ottawa, are somewhat similar to the first area described, with a high percentage of unimproved land on rather large farms. Cattle of the dual purpose type for both dairy and beef production, as well as sheep, are raised on these farms.



TYPES OF FARMING AREAS IN SOUTHERN ONTARIO

1. North Bruce and Grey: Beef cattle, sheep.
2. Dufferin-Simcoe: Beef cattle, hogs, sheep, potatoes, wheat, orchard.
3. Lake Huron counties: Beef and dairy cattle, hogs, poultry.
4. Waterloo area: Dairy, hogs, poultry, turnips, potatoes.
5. North Halton, Peel and York: Dairy, potatoes, hogs, poultry, clover seed.
6. Niagara Peninsula: Orchards, vegetables.
7. Oxford area: Dairy, poultry.
8. Essex: Vegetables, tobacco, corn, sugar beets, wheat, hogs, poultry.
9. Kent: Sugar beets, corn, tobacco, wheat, hogs, poultry.
10. Norfolk area: Tobacco, orchard, canning crops, dairy, hogs.
11. North Shore Lake Ontario: Orchards, vegetables, dairy, poultry.
12. Peterboro area: Dairy and beef cattle, sheep.
13. Durham-Northumberland: Dairy, poultry, hogs, sheep.
14. Prince Edward: Canning crops, orchard, dairy.
15. Renfrew-Lanark: Dairy and beef cattle, sheep.
16. Eastern Ontario: Dairy, hogs, poultry.
17. Ottawa area: Dairy, vegetables, potatoes, poultry.

And Utilization, Livestock Numbers per Farm, Capitalization and Other Factors Relating to Farm Organization in Southern Ontario[1]

Areas[2]	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Number of farms	8,024	13,106	31,138	8,100	6,335	4,061	12,033	7,780	4,328	13,087	12,725	10,111	7,232	2,126	4,010	28,948	3,262
Land Utilization:																	
Occupied land ac.	134·6	117·5	109·9	105·3	101·9	46·1	91·1	72·6	86·1	88·4	85·7	200·6	131·9	110·9	230·0	134·1	111·0
Improved land ac.	79·1	79·6	84·3	80·2	76·4	39·5	72·7	63·6	70·0	69·0	61·2	47·0	75·6	78·5	54·4	70·3	75·4
Per cent improved %	58·8	68·7	76·7	76·1	75·0	85·7	79·8	87·6	81·3	78·0	71·4	23·4	57·3	70·8	23·6	52·4	68·5
Field crops ac.	51·9	58·1	53·7	61·7	58·6	31·0	52·2	50·8	55·1	47·7	45·8	35·3	59·4	55·7	42·0	53·4	54·8
Improved pasture ac.	23·4	15·4	25·5	14·0	12·3	5·5	15·9	9·5	12·0	15·3	11·9	9·0	16·2	17·2	10·0	15·0	18·7
Natural pasture ac.	24·3	17·1	11·8	9·7	12·9	2·2	9·7	3·7	8·1	6·3	13·5	33·2	24·8	15·2	44·5	30·5	18·5
Woodland ac.	24·6	37·9	25·6	25·1	25·5	6·6	6·9	9·0	16·1	19·4	24·5	153·6	56·3	32·4	175·6	63·8	35·6
Field Crops:																	
Wheat ac.	1·8	5·6	4·4	4·1	5·3	1·8	3·6	9·5	11·3	3·7	2·4	0·7	4·2	1·2	1·7	1·0	0·7
Oats ac.	12·1	14·7	14·8	2·2	12·2	5·2	12·0	11·0	11·8	10·2	9·8	10·4	16·6	11·0	12·5	14·3	16·3
Other cereals ac.	9·6	14·2	12·2	16·5	17·3	2·5	13·1	13·6	16·2	9·6	11·5	3·6	13·5	13·6	4·8	7·3	7·1
Hay ac.	25·8	19·1	18·6	20·6	17·2	8·8	17·1	8·5	9·0	16·4	15·2	18·7	19·6	20·0	20·9	27·3	24·9
Potatoes ac.	0·6	1·9	0·5	1·4	2·0	0·6	0·8	0·6	0·6	0·5	1·1	0·7	0·9	0·6	0·9	0·7	1·5
Roots ac.	0·4	0·6	0·6	1·8	1·4	....	0·8	1·3	3·7	0·1	0·6	0·2	0·7	....	....	0·1	0·2
Orchards ac.	0·6	0·6	0·7	0·6	0·6	9·1	0·7	0·6	0·4	1·0	1·7	0·1	0·4	2·0	....	0·2	0·4
Market garden ac.	....	....	0·1	....	0·2	0·9	0·3	1·8	0·3	0·7	1·1	....	....	5·5	....	....	0·4
Livestock.																	
Cows no.	5·2	5·2	5·1	6·4	6·5	2·1	7·3	2·9	2·9	5·3	5·2	4·5	6·9	6·6	6·1	9·6	8·9
Other cattle no.	11·1	8·1	9·5	7·9	6·8	1·5	6·9	2·8	4·7	4·3	5·2	7·8	8·7	5·1	10·2	9·0	7·7
Sheep no.	12·3	9·6	5·3	5·4	6·6	0·6	2·9	2·4	2·1	3·2	3·8	6·8	7·5	4·4	14·2	4·9	4·4
Swine no.	6·4	9·5	9·5	11·6	8·8	1·9	6·8	8·8	10·8	4·6	5·9	3·2	8·8	6·0	4·7	6·9	6·6
Hens no.	86·4	105·8	124·9	127·3	136·9	111·3	143·1	137·4	166·7	131·6	169·4	50·4	138·3	98·4	53·2	109·8	122·2
Total farm value $	6,608	7,383	7,185	9,754	9,844	10,004	8,434	9,410	8,619	8,591	10,878	3,624	6,715	7,444	5,964	6,674	8,709
Land value per occupied acre $	20·03	24·63	29·22	33·71	51·10	88·52	33·97	74·56	48·79	31·02	71·51	7·35	15·96	25·90	12·95	23·65	34·94
Buildings per farm $	2,454	2,692	2,371	4,241	3,375	3,569	3,277	2,871	2,790	3,174	3,585	1,112	2,492	2,544	1,642	2,192	2,620
Machinery per farm $	686	808	777	1,041	858	844	963	864	918	989	873	505	760	1,157	792	774	848
Livestock per farm $	948	966	933	1,194	980	520	1,145	643	723	948	920	577	950	870	942	1,010	1,047
Taxes per improved acre $	1·16	1·27	0·99	1·66	1·78	3·11	1·53	2·94	2·16	1·52	2·06	0·87	1·27	1·10	1·26	1·64	1·82
Rent per improved acre $	3·12	3·04	2·55	3·65	4·71	5·60	3·92	5·82	5·77	3·40	5·50	2·76	3·22	3·37	3·21	3·74	4·65
Per cent tenant-operated %	14·8	17·7	14·9	14·5	23·8	17·3	19·7	33·4	26·7	24·6	24·2	11·0	20·2	19·0	6·0	16·6	16·4

[1] Based on Census of Canada, 1931.
[2] For areas, see map.

SOME OBSERVATIONS ON THE ORGANIZATION AND OPERATION OF 25 ONTARIO MARKETS

PART I

Ewart P. Reid

During April, 1938, the Economics Division of the Marketing Service, Department of Agriculture in co-operation with the Ontario Department of Agriculture made observations of 25 city and town markets in Ontario. These markets were located in most districts of old Ontario between Ottawa and Windsor. The centres in which they were located varied in population from 1,355 in Hagersville to 650,000 in Toronto. Table 1 is a list of the markets, together with some salient comparative facts about each.

Date of Establishment.—The stated dates of founding of the markets visited varied from 1795 in the case of Chatham to 1933 for the St. Clair-Bathurst private market in Toronto. The North and East York markets were established in 1926 and that at Hagersville in 1892. All the others were instituted 50 years or more ago. This is to be expected when it is kept in mind that it is the markets of the long-established cities of an older province which are the subject of this study. Dates of construction of certain market buildings still used as such are as follows: Kingston, 1846; Chatham, 1855; London, 1862; Peterboro, 1890; Woodstock, 1895; Waterloo and St. Lawrence, 1902; Kitchener, 1913; Galt, 1918. The markets in and adjacent to Toronto, the largest city in the province and for many years now too large in area to be served by a single market place, are the most recently founded. Some former markets in close proximity to Toronto, whose location has become less suitable as the city grew, have been discontinued since the three outlying markets included in this study have been opened.

Ownership, Control and Operation.—Only one non-municipal market is included in this study, the small St. Clair-Bathurst enterprise in northwest Toronto, which is a private business operated by a manager who is part owner, and who collects a fee from producer-patrons for permitting them to meet the buying public on the property. The other markets are all under the general supervision of a single member or a committee of the municipal council. The Peterboro market is let by auction annually to the applicant making the highest bid in return for the option of administering the market and retaining the market fees. The clerks at Cobourg and Picton are recompensed to a large extent by certain of the market and weighing tolls which it is their right to retain.

The other 21 markets visited are in charge for day-to-day operation of a market clerk or superintendent who is a salaried employee of the municipality. On thirteen of these markets, the clerks are in charge of public weigh scales in addition to their market duties and do both jobs without assistance. The towns in this class vary in population from 3,580 (Picton) to 30,107 (Brantford), and only two towns in this population range have more than one employee for market and scales. Thus Kingston and Guelph clerks are assisted in the first case by city hall janitorial staff and in the second by two part-time workers. Two clerks without scale duties work without assistance, at the comparatively small markets of Hagersville and East York. All the other market clerks, being those in cities of over 31,000 population, have one or more assistants. The largest staff is at the St. Lawrence market in Toronto, with foreman, assistant foreman and four cleaners. In most of these larger cities one or more policemen are delegated to market duty on market days.

Market Days in Week.—By-laws in three cities authorize daily (except Sunday and holidays) markets; these are Ottawa, London and Chatham. In each city the more important market days are less frequent than the by-law permits. For Ottawa and London these are Tuesday, Thursday and Saturday,

TABLE 1.—ANALYSIS OF TWENTY-FIVE ONTARIO FARMERS' MARKETS, 1938

Market	Population	Date of founding	Staff	Markets per week	Hours per day	Area of market place			Stalls		Sellers' distance from market	Fees	
						Total	Building	Covered space	Outdoor	Indoor		Daily	Annual
	1931		No.	No.	No.	Sq. ft.	Sq. ft.	Sq. ft.	No.	No.	Miles	$	$
St. Lawrence[1]	631,207	1803	6	1	15	54,000	17,825	....	some	310	50	nil	nil
North York[1]	631,207	1926	2	2	10½–14	45,000	18,000	....	50	175	25	nil	.50–1.00 wk.
East York[1]	631,207	1926	1	2	15	7,600	3,800	400	10	45	15	.25–.75	nil
St. Clair-Bathurst[1]	631,207	1933	1	2	15½	4,510	4,510	....	....	48	20	1.25	nil
Hamilton	155,547	1838[2]	3	4	12 –16	78,500	5,000	29,550	392	270	50	.10– .25	.25–3.75 wk.
Ottawa	126,872	1850	4	6	11–14	120,000	16,560	10,800	600	stores	45	.05– .10[5]	5.00–100.00
Windsor	81,565	1889	4	2	8½–10	110,000	128,000	87,000	24	600	60	.25–2.00	45.00–200.00
London	71,148	1860	3	6	11–16	101,500	16,000	9,995	600	155	100	.25–2.00	10.00– 50.00
Kitchener	30,793	1913[2]	2	2[4]	6	45,000	13,800	....	154	450	25	.25–1.00	7.00– 15.00
Brantford	30,107	1877[2]	1	3	10–15	78,400	6,000	....	325	108	40	.10– .25	nil
St. Catharines	24,753	1856	1	3	12	70,000	....	....	217	....	38	.25	15.00– 35.00
Kingston	23,439	1846	2	3	11	40,000	2,800	....	180	150	30	.10– .25	15.00– 95.00
Peterborough	22,327	1838[2]	1	1	8	22,500	5,750	....	74	150	50	.02– .25	nil
Guelph	21,075	1828	3	1	....	34,700	23,180	....	40	202	25	.10–1.00	nil
Niagara Falls	19,046	1888[2]	1	3[4]	11	24,000	....	1,000	103	....	45	.05– .50	15
St. Thomas	15,543	[3]	1	2	6	59,800	3,360	4,080	222	16	20	.15– .35	13.00– 15.00
Chatham	14,569	1795	2	6	12–14½	36,900	9,440	2,420	72	258	20	.10– .25	6.00– 75.00
Galt	14,006	1838[2]	1	2[4]	8½	31,000	3,780	900	100	145	35	.10–1.00[5]	2.50– 12.00
Belleville	13,790	1838[2]	1	3[4]	10	79,000	6,800	....	170	275	30	.03– .10[5]	3.00– 8.00
Woodstock	11,395	1850[2]	1	1	12	40,500	12,400	....	97	209	40	.05– .10	1.00– 48.00
Brockville	9,736	1804	1	3	7	15,000	....	400	100	....	20	.02– .10[5]	2.00
Waterloo	8,095	1876	1	2[4]	2	5,000	3,600	....	14	173	10	.25–1.00[5]	4.00– 8.00
Cobourg	5,834	1854[2]	1	1	4½	21,600	1,800	1,400	20	50	18	.02– .10	nil
Picton	3,580	[3]	1	1	11–12	15,000	3,880	....	20	65	10	.02– .50	nil
Hagersville	1,169	1892	2	1	8	24,000	....	3,465	28	....	30	.10– .25	nil

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[1] Markets in or adjacent to Toronto.
[2] Approximate date.
[3] Not ascertained.
[4] Mid-week markets operate in summer months only.
[5] Daily fee applies equally to stall holders and others.

and for Chatham, Wednesday and Saturday, on which days the indoor market operates. Hamilton's market operates Tuesday, Thursday, Friday, and Saturday, with the Friday market the smallest of the week.

Markets at Brantford, St. Catharines, Kingston, Niagara Falls, Belleville and Brockville operate on Tuesday, Thursday and Saturday, though the winter season sees the virtual disappearance of the mid-week markets in some of the cities. Bi-weekly markets are conducted in nine instances, at East York, North York, St. Clair-Bathurst, Windsor, St. Thomas, Kitchener, Galt and Waterloo. In the latter three places the Wednesday market is not held in the winter. Saturday is the big marketing day everywhere except Hagersville, which is a Wednesday market. Saturday is the only day at Peterboro, St. Lawrence, Guelph, Woodstock, Cobourg, and Picton.

Market Hours.—Assuming a business day of between eight and ten hours as normal, six markets may be so regarded from the point of view of selling hours; viz., Windsor, Peterboro, Niagara Falls, Belleville, Galt and Hagersville. Brantford's Tuesday and Thursday markets last ten hours, but the Saturday market extends to 15 hours. These markets of "normal selling" duration are, with the exception of Windsor and Hagersville, in average-sized cities varying in population from 14,000 to 30,000.

Five markets operate less than eight hours, and may be regarded as "quick-selling" markets; these are Kitchener, St. Thomas, Brockville, Waterloo, and Cobourg, of which only Kitchener is in the upper half of the list of cities according to population. The remaining 12 markets are "slow-selling" of about 15 hours duration, and they include all markets in Toronto, as well as Hamilton, Ottawa, London, St. Catharines, and Kingston, amongst the larger centres, as well as Woodstock, Picton, and the Saturday market at Brantford as mentioned above. At most of these markets it was learned that the long day is punctuated by lulls and rushes of business, and that typically a number of kinds of markets within the market may be observed as the day progresses. For example, even where considerable wholesale trade takes place, selling after a mid-morning hour is mainly on a retail basis. On large city markets the major number of the morning buyers are well-to-do householders; middle-class families patronize the market in the afternoon; and miscellaneous bargain hunters come in the evening. Thus there would appear to be need of studies to determine the effect which legal restriction of selling hours would have on the average price and total return which growers receive for their normal offering of produce.

Attendance of Sellers.—In comparing the use made of markets by sellers, weekly attendance is the best index: each market is held at least once a week so that markets held more frequently are seen in their true importance, and comparative monthly or annual attendances can be readily estimated.

Six markets average over 400 sellers per week; they are Hamilton, London, Ottawa, Windsor, Kitchener and Brantford. The first four are conducted three times a week or oftener, and all are in the top-ranking cities in population. They also lead in gross market revenue. North York receives over 300 sellers on its two weekly market days. Seven markets have attendances between 201 and 300, three rank between 101 and 200, and the remaining seven average less than 100 sellers per week, though three of them are open more than once a week. Weekly attendance varies more with the size of the centre in which the market is located than with the number of markets per week.

Seasonal Trend in Attendance.—For the purpose of studying seasonal trends, 22 of the 25 markets for which seasonal estimates were obtained, have been classified in three different ways.

The first grouping is based on type of marketing facility in the different cities. Four of the 22 markets were primarily indoor markets, while five others had no indoor facilities for producers. The remaining 13 had both indoor and outdoor markets of somewhat equal importance, but for the purpose of this section, this group was subdivided according to size of market, with six markets being placed in the group of large markets and seven in the group of small markets.

TABLE 2.—MONTHLY INDICES OF LOADS BY TYPE OF MARKET FACILITY

(100=Average Number of Loads per Month)

Type of market	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Primarily indoor........	78	79	80	82	98	114	113	116	124	115	95	96
Primarily outdoor......	63	58	61	66	83	121	133	141	137	134	110	95
Combination large......	78	75	75	80	95	108	128	126	134	121	84	96
Combination small......	89	84	80	79	82	102	109	117	126	120	110	102

As might be expected, the five indoor markets had the smallest fluctuation from average for the twelve-month period, whereas the four outdoor markets showed very wide deviations from normal, with February being 42 per cent below and August 41 per cent above the monthly average. Both the large and small combination groups followed a middle trend with the small market group, located chiefly in general farming areas, showing smaller variations from average.

Five fairly well defined climatic areas were selected for a second grouping; namely, Niagara Peninsula, Southwestern Ontario, Western Ontario, Central Ontario, and Eastern Ontario.

TABLE 3.—MONTHLY INDICES OF LOADS BY CLIMATIC AREAS

(100=Average Number of Loads per Month)

Climatic Area	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Niagara Peninsula.......	67	60	63	68	85	108	131	129	144	124	100	121
Southwestern...........	84	81	80	85	96	102	112	114	124	119	97	106
Western.................	74	75	75	75	83	121	135	135	137	123	90	97
Central.................	77	80	79	89	90	110	118	121	124	127	95	90
Eastern.................	70	63	63	71	96	126	140	151	136	123	89	72

The monthly indices shown above for climatic areas are influenced largely by the type of agriculture carried on in the different sections. The Niagara Peninsula group, including such markets as Hamilton and St. Catharines, is in the centre of a large fruit-growing area, which helps to account for the high monthly peak in September when peaches and grapes arrive on the markets. The Southwestern group, including such markets as Windsor and London, does not show such wide variation, because vegetables, which are grown in this section, are not as perishable as fruits and it is possible to extend the marketing of such produce over a longer period.

The Western group, on the other hand, is centred in a more general farming region, and the peak of the season extends over the three months, July, August, and September. There the low period occurs during the first four months of the year, when the produce farmers have for sale is chiefly poultry, butter, eggs, and meat. The Central Ontario group, including the markets of Toronto and Belleville, does not reach the high point in number of sellers until October, as it is influenced partly by the late fruit areas located in this section. The Eastern markets, Ottawa and Kingston, show a high point in August, with July and September being only slightly lower. In this area, market gardening is important, with truck garden produce being available during the four summer months, June, July, August and September.

The 22 markets are shown in the third grouping divided into five classes with an interval of 10,000 population for each group.

TABLE 4.—MONTHLY INDICES OF LOADS BY SIZE OF CITY
(100 = Average Number of Loads per Month)

Population interval	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
10,000 and under..........	69	69	69	89	95	102	105	119	128	128	118	119
10,001–20,000............	71	69	70	72	79	107	124	128	134	136	111	99
20,001–30,000............	71	72	69	71	84	122	123	136	133	117	105	97
30,001–40,000............	80	76	73	77	91	115	129	127	131	127	89	85
Over 40,000.............	79	75	76	84	97	109	122	123	130	117	88	100

The foregoing figures would indicate that monthly trends are scarcely influenced by size of city. All groups show a very regular trend with a low point during the first three months of the year gradually increasing to a high in August, September, and October.

Aggregate Index for All Markets

Combining all markets, the following index is obtained:—

TABLE 5.—AGGREGATE MONTHLY INDICES OF LOADS FOR 22 ONTARIO MARKETS
(100 = Average Number of Loads per Month)

——	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
22 markets..............	77	74	74	79	91	111	123	126	131	122	95	97

The first four months of the year are distinctly low in attendance of sellers, as in many cities only the inside markets are being used. As the summer progresses and fruits and vegetables become increasingly important, the high peak of the year is gradually reached in September. From this peak there is a gradual decline in October and a sharp drop in November, but a gradual recovery occurs in December before a drop to the winter low. This increase in December is caused by farmers taking advantage of the special Christmas trade on many markets for selling fowl (including turkeys) and other produce.

Retail and Wholesale Transactions.—Seven markets were said to be about equal in the amounts of their wholesale and retail transactions. They included most of the biggest city markets and Belleville. Windsor's wholesale business was said to be one-third and that at St. Lawrence one-fourth of total business. Hagersville is in a class by itself as a regional market in a village. Buyers' vehicles are assessed a market fee on the same basis as those of sellers. This market is evidently most important in its wholesale aspect. All other markets, in the smaller cities and towns and the suburbs of Toronto, were reported to be either mostly or entirely retail, and indeed, a number have by-laws to ensure this condition.(1)

Popularity.—Eleven markets were reported to have increased their business in recent years, and for only three were decreases mentioned. Eleven markets were said to exhibit no marked variation in activity during a recent period. Spokesmen for 18 markets considered their retail buyers were drawn from all income groups. The indication was that any change during late years in retail patronage of city markets has not resulted from greater or lesser use by any one income group.

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(1) London, Kingston, Peterboro, St. Thomas, Waterloo, and Cobourg bar all or some classes of wholesale transactions before 9 or 10 a.m.

Distance of Growers from Market.—Estimates were obtained of the distance which the most distant " regular " sellers travelled to each market. The figure for each market is that of the radius of the circle defining the area from which produce is normally drawn, but it does not recognize the rather general situation that fruit from specialty districts frequently moves longer distances to a large number of markets for a few weeks each autumn. The markets are grouped in Table 6 according to the population of the cities in which they are located, and the most remote distances are averaged for the groups.

TABLE 6.—GREATEST DISTANCE TRAVELLED BY REGULAR SELLERS TO 25 ONTARIO MARKETS

Population interval of marketing centres	Number of markets	Average farthest distance
		miles
10,000 and under	5	17
10,001–20,000	6	32
20,001–50,000	6	35
50,000–100,000	2	80
Over 100,000	6	34
	25	34

It is observed that the size of the area from which sellers regularly come is rather directly related to the size of the centres in which the markets are located. The decline in this trend seen in the case of markets in cities of over 100,000 population is, of course, affected by the fact that the various Toronto markets compete with each other for buyers, and are proportionally less attractive to sellers. There is a large number of fairly regular sellers travelling long distances to Toronto with garden and farm produce, who market otherwise than through the type of market visited in this study.

An appraisal of the above data together with other available information permits the grouping of the markets according to whether their function is purely local or in some respects regional. Only ten markets were classified as local, and they were mostly in centres of lesser population.

Fees, Tolls, Rentals, Etc.—There are three systems for obtaining revenue from producers and other users of a market: (1) daily tolls collected from all coming to market to sell; (2) weekly, monthly, or annual fees collected from all sellers who wish to come to market during a period, irrespective of whether or not the space or selling right is used every market day; this is usually paid in exchange for a reserved space; (3) a combination of reservation fees and daily tolls.

A possible fourth system, a free market, prevails only at St. Lawrence and for a small group at London. Eight markets charge daily fees only, and five of these operate once a week. Four other markets have tariffs of daily fees similar to the above, and in addition annual or seasonal rentals of a somewhat nominal magnitude, ranging from $2 to $8 per vendor. Such daily fees typically range from 2 cents to 25 cents, with some higher for special services or extra space. The Ottawa market is a fifth in the class of markets with dual fee systems where the reservation does not relieve the tenant of daily toll obligations. However, though Ottawa's daily charge of 10 cents is not high, charges for reservations range from $5 to $100, with a large number costing $40 and $60.

The other markets visited have alternate revenue systems, the daily toll being assessed only on those not paying for reservations. In most cases daily fees average higher than at markets where all sellers pay them. They range from 5 and 10 cents at Woodstock to 25 cents to $2 at Windsor and London. The reservation rates are usually more than nominal, in fact, just low enough to tempt regular vendors to make reservations rather than chance having to occupy a different stand each day. The range is between $1 and $3 at Woodstock and $45 to $200 at Windsor.

ECONOMIC LITERATURE

OUR FARM TENANCY PROBLEMS. H. C. M. Case, Chief in Farm Management, and Joseph Ackerman, Associate in Farm Management, College of Agriculture, University of Illinois, Urbana, Illinois, U.S.A. Mimeographed 17 pages, May, 1938.

Though this bulletin is descriptive of tenancy problems in the State of Illinois in particular, much of the material is applicable to farm tenancy in general.

The authors point out in the introduction that "the social and economic life of the entire state as well as that of the community is affected by the reduced income which results when farm land becomes 'worn out' through exploitative farming methods, and when adequate buildings are not maintained on the land."

In considering tenancy there are three parties involved, "the owner, the tenant, and 'the farm'," and from a broad social aspect it is important that the tenant may be enabled to secure a good current income so that a high level of rural living may be maintained. Further, the income of those employed on the land has a far-reaching effect on industry generally, and the maintenance and improvement of farms is an essential if their value is to be maintained for further generations.

The picture has changed since the pioneer days when a farmer needed little but his own ability and the land to till with almost primitive equipment. To-day it has "developed into a highly technical business requiring large investments of capital in land, buildings, livestock, machinery, and other equipment, and with the increased need for good farming, the relationship between the landlord and tenant has become one of the perplexing farm problems."

Among problems discussed are: the causes tending to farm tenancy, its functions and objections, and the need for a constructive view of tenancy by both landlord and tenant. Some interesting suggestions are made for the improvement of farm leases, and the qualifications needed by a good tenant and a good landlord are considered. The bulletin concludes with some observations, pertinent to agriculture in general and farm tenancy in particular, which, used as a basis for co-operation between tenant and landlord, would go far in lessening the problems of farm tenancy.

FARM LEASES FOR ILLINOIS. College of Agriculture, University of Illinois, Urbana, Illinois, U.S.A. Circular 474. June, 1937. 43 pages.

This extension bulletin by the same authors as "Our Farm Tenancy Problems" is concerned more directly with farm leases and their construction, than with the broad problems that arise in connection with the rented farm.

An example is given of a brief form of farm lease which, while satisfactory from a purely legal viewpoint, is hardly adequate enough in its provisions to cover the various types of farming found throughout the State. The leases most commonly used in Illinois are: the cash lease, the crop share-cash lease, the livestock share lease and the manager-tenant lease. The authors show in tabular form the most common contributions of landlord and tenant under each of these methods of renting.

A very complete analysis of the various provisions which should be incorporated in each type of lease, forms the major part of the bulletin and sample farm leases are presented as an appendix.

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The ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE ECONOMICS DIVISION
MARKETING SERVICE
DEPARTMENT OF AGRICULTURE
OTTAWA

Vol. VIII, No. 5 | Published by Authority of the Hon. James G. Gardiner, Minister of Agriculture | October, 1938

THE ECONOMIC SITUATION

The Dominion Bureau of Statistics index of wholesale commodity prices declined during both July and August, the monthly figure for the latter month being 76·0. Recessions were most pronounced in farm prices and the declining price of wheat in particular accentuated the continued drop in the general wholesale commodity index, which for the week ending September 9, was 74·0. The weekly index of Canadian farm products at the same date had declined to 63·0, and field products to 53·0. The monthly index of Canadian farm animal products showed a slight gain in July, but lost nearly one point in August. For the week ending September 9, the weekly index was 79·8, decreases in the prices of livestock and wool being off-set by increases in egg and hide prices.

Wheat Prices.—Despite the small carry-over from the 1937-38 crop, cash prices fell considerably during July. Although rust and grasshopper damage was reported to be serious in certain areas, this did not offset the bearish effect of beneficial rains in the Canadian west, and the prospect of a general favourable world crop. The average monthly cash price for No. 1 Northern was 98·4 cents a bushel, as compared with 114·3 cents during June. From early in August prices declined steadily and No. 1 Northern cash wheat, Fort William basis was quoted on September 8, at 57·5 cents a bushel. Unsettled conditions in Europe caused a rally in prices during the following week and cash wheat closed on September 17 at $67\frac{1}{4}$ cents a bushel with May futures at $69\frac{1}{8}$ cents.

Livestock Prices.—Cattle prices were slightly lower during July, although calves and hogs recorded gains on the average. There was a minor upturn in prices during the second week of August, but light export demand was not sufficient to absorb a fairly large supply, and prices turned downward. Average hog prices were considerably lower, steers and lambs both declined and calf prices moved upward. Prices for wool, eggs and butter remained comparatively steady.

Retail Prices.—The decline in wholesale prices of more than 13 per cent since the summer of 1937, has not yet been reflected in retail prices which during the same period have advanced about 2 per cent. The index of retail prices, rents and services for August was 84·9, a slight increase over the previous month. This increase was almost entirely caused by higher prices for sirloin beef, mutton, pork, eggs and potatoes, despite lower prices for shoulder beef, veal, flour and onions.

Business generally has been susceptible to reports on the European situation. The Weekly Economic Index for the week ending September 10, at 110·4, how-

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

Year	Wholesale Prices 1926=100				Retail prices and cost of services (5)	Production (6) 1926=100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·4	57·1	73·9	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·7	112·3	114·4	82·7	141·3
1937....	84·5	84·5	85·7	84·9	83·1	122·8	120·8	49·4	157·3
1937									
Aug....	85·6	84·9	84·6	85·5	83·8	123·4	127·2	57·6	139·9
Sept....	85·0	86·1	84·8	88·4	83·7	123·8	127·5	86·1	136·3
Oct.....	84·7	86·4	86·3	86·5	84·2	127·4	132·6	55·3	137·2
Nov....	83·1	84·0	81·9	87·4	84·2	127·9	133·5	57·2	138·5
Dec....	82·7	84·2	83·9	84·6	84·3	121·4	125·2	35·5	138·9
1938									
Jan.....	83·8	86·3	88·8	82·2	84·1	111·8	113·5	37·6	135·1
Feb....	83·6	85·1	87·5	81·1	83·9	106·7	107·4	25·7	137·2
Mar....	83·1	83·0	83·8	81·7	84·2	108·8	110·2	29·7	133·4
April...	82·3	82·5	83·2	81·2	84·3	112·4	114·2	38·3	131·9
May....	80·3	77·3	74·6	81·8	84·2	110·7	112·5	41·1	157·8
June....	80·1	76·6	74·3	80·5	84·1	108·4	109·3	20·6	188·3
July....	78·6	71·5	65·9	80·8	84·2	109·1	109·8	40·3	142·7
Aug.....	76·0	64·2	54·9	79·7	84·9	110·1	110·3	89·2	139·2

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1935, p. 17.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1935, p. 53, and Monthly Mimeographs 1937 and 1938.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.

Prices and Price Indexes 1913-1935, p. 117, and Monthly Mimeographs, 1937-1938.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

Yearly index numbers for 1937, subject to revision.

ever, showed an advance of one point over the preceding week, helped by a rise in car loadings, an increase in bank clearings and a gain in common stock prices.

The Wheat Crop.—The first estimate of the Dominion Bureau of Statistics places total Canadian spring and fall wheat production for 1938 at 358,433,000 bushels. The spring wheat estimate for the Prairie Provinces of 334 million bushels includes Manitoba 50 million, Saskatchewan 143 million, and Alberta 141 million. In addition, 15 million bushels of Durum wheat were produced in Manitoba and 7 million bushels in Saskatchewan. The 1938 crop is the largest since 1932 when 443 million bushels were harvested.

The United Kingdom.—The annual agricultural returns for 1938 show that although wheat acreage declined in Scotland, there was a net increase for the United Kingdom of 93,000 acres over the figures for 1937. Barley acreage showed an increase in all three countries of 83,000 acres. There was a decrease in the area under oats in Scotland, but a net increase in England and Wales of 76,000 acres, together with a considerably larger acreage in Northern Ireland increased the figure for the United Kingdom by 94,700 acres.

Increases in the total cattle population compared with 1937, occurred in all three countries. The net increase for the United Kingdom was 58,000, of which Northern Ireland contributed 1,000. Sheep population increased by 696,000 and 761,000 in Great Britain and the United Kingdom, respectively. A decrease in the swine population for the United Kingdom of 86,400 was recorded. An increase of 8,500 in Scotland was more than offset by a decrease in England and Wales of 86,300. The decrease in Northern Ireland was 8,600.

There was a decline of both regular and casual agricultural workers for Great Britain of 48,000. Figures for Northern Ireland are not yet available.

STUDY OF THE SYDNEY MARKET AREA

An economic study is now under way by the Economics Division in co-operation with the Nova Scotia Department of Agriculture in Cape Breton Island. This is a detailed investigation of the quantity, quality and method of marketing and distributing various kinds of farm products in the Sydney market area. The survey embraces the city of Sydney and certain mining towns, including Glace Bay, Reserve, Sydney Mines, New Waterford, and North Sydney. In this section of Cape Breton Island, the production of steel and coal are the important industries and there is a large population of consumers.

Every year large quantities of farm commodities of all kinds are imported into the area from Nova Scotia, Prince Edward Island and other parts of Canada, as well as a considerable volume from the United States and other countries. The quantity of produce produced in Cape Breton Island is relatively small. One of the reasons for the rather insignificant production of certain kinds of farm products in Cape Breton county, in which these centres of population are located, may be the lack of appreciation of the importance of the Sydney market; another may be the difficulty in selling locally-grown produce in competition with the well-graded products from other areas, and still another reason may be that a considerable part of Cape Breton county is not suited agriculturally to the production of many of the farm commodities required by the consumers in the area. It is hoped that the market study now under way may help to provide information on the first two points. Another study may be necessary to reveal the importance of the last point.

The results of the survey now being conducted should not only be of value to Cape Breton producers, but also to distributors in the area and to producers, distributors and transportation agencies in other parts of Canada. If, as a result of the study, greater efficiency in marketing can be accomplished, the consumers in the area should also benefit from the investigation.

The gathering of the necessary information in the field has made considerable progress and transportation agencies, wholesalers, retailers, and producers of various kinds of products are giving their full co-operation.

STUDY OF THE MARKETING OF PERISHABLE FARM PRODUCTS IN THE CITY OF MONTREAL

A comprehensive study of the marketing of perishable farm products in the city of Montreal was started in June of this year. Marketing facilities in that city for the handling of farm products, particularly fresh fruits and vegetables grown in the province of Quebec, are quite inadequate and out-of-date. Considerable interest has been displayed in recent years in the possibility of improving marketing conditions so that a larger volume of Quebec-grown fruits, vegetables, potatoes and other products can be sold and the cost of distribution of these essential foodstuffs can be reduced. It was believed that before recommendations could be made to improve marketing facilities, it was necessary to undertake a complete study of the situation. The Economics Division of the Marketing Service of the Dominion Department of Agriculture and the Quebec Department of Agriculture are co-operating in this investigation.

It is expected that the gathering of information in the field will be completed by the end of the first week in November, and it will require several months thereafter to complete the analysis of the large amount of data obtained. When the study is complete it will reveal essential facts on the marketing and distribution of perishable produce in the city of Montreal. These facts will include a knowledge of the total volume and value of fresh fruits and vegetables, including potatoes, sold in Montreal, the origin of produce grown in Quebec and in other parts of Canada, as well as that imported from other countries, the volume handled by independent retail stores and chain stores, the number of growers, truckers, and other agencies distributing these commodities, the volume of different kinds of produce sold on public markets, and the quantities sold direct to stores, wholesalers and jobbers, and hotels and restaurants. The study will also show the importance of Montreal as a distributing centre for such products consumed in outside points.

The study involves the obtaining of necessary data from about 1,000 growers, all of the wholesalers and jobbers of fruits and vegetables in Montreal, all of the chain retail stores, about 750 representative independent retail stores, as well as from city peddlers, truckers, railways, steamship lines and hotels and restaurants.

So far the survey has made good progress; agencies which have been asked for information have given it willingly, and full co-operation of all concerned is being experienced.

BUYING FRUITS AND VEGETABLES FROM WHOLESALERS

If buyers can be attracted to the wholesale warehouse, they will buy considerably more fresh fruits and vegetables than they had originally planned to buy when they entered the warehouse. In other words, in warehouses where floor sales direct to buyers form a large part of the total sales, there appears to be a substantially larger amount of "impulse buying" than in warehouses where the sales are largely over the telephone. A brief study made in Ottawa recently supports this contention.

Another interesting feature of this study was that when the wholesaler or jobber was located close to the public market where locally-grown produce was handled, floor sales constituted a large proportion of the total sales. This indicates that buyers go to the public market for local produce and when there, visit the wholesale warehouses to select and purchase such produce as is not offered on the public market. On the other hand, warehouses situated a considerable distance from the market tended to have larger sales over the telephone than they had sales direct to buyers on the floor.

Even though the wholesalers close to the public market had, on the average, smaller display spaces in their warehouses than those at a distance from the market, they sold more on the warehouse floor and had a larger volume of "impulse" sales.

EXPENDITURES FOR MEAT IN SAINT JOHN, MONTREAL AND VANCOUVER

By Charlotte I. Johnston

The following material is based upon data obtained in the latter part of 1936 by the Economics Division of the Dominion Department of Agriculture in co-operation with the departments of agriculture of the provinces in which the cities of Saint John, Montreal and Vancouver are situated. Housewives gave the information to enumerators who interviewed them in their homes.

Consumption by Cities.—Meat consumption differed quite considerably in the three cities and meat was used more extensively by families in Montreal than in either of the two sea-board cities. The annual per capita consumption in Montreal was 144 pounds, in St. John 127 pounds and in Vancouver 110 pounds.

As might be expected, the amount consumed in the respective cities was reflected in the average monthly expenditure per person for meat, and housewives in Montreal spent the highest amount at approximately $2.80, while the expenditure in Saint John was second at $2.15 and Vancouver took third place with $1.65.

The cities remained in the same order when the expenditure on meat only of the total monthly food bill was ascertained. Housewives in Montreal spent 37 per cent of their monthly food account for meat, those in Saint John 26 per cent while in Vancouver only 18 per cent of the monthly food expenditure went to defray the butcher's bill.

In each city, special groups of households were chosen of which each household contained the same number of adults and children, had approximately the same income, and of which the chief wage-earner was born in Canada. In all of the three cities the largest number of households was in the groups of households with two adults and no children and where the annual income was less than $1,000. A similar group was examined of which the household incomes were between $1,000 and $1,999, and also a third group for which the annual incomes were less than $1,000, but in which the households each had one child. In all three such groups, it was found that the per capita expenditure for meat, as well as the proportion of the total food bill paid for meat, was highest in Montreal and lowest in Vancouver, and that the differences were as great as when all the households, irrespective of their composition, were compared.

Per Capita Income.—To eliminate to some extent variations in the size of the household, the per capita incomes were found by dividing the household income by the number of persons in the household. The classes of per capita income used were those in table 1. With the exception of the highest income group in Montreal, per capita expenditure for meat rose steadily in all three cities as per capita income increased.

Table 1.—Monthly Per Capita Expenditure for Meat in Groups Classified according to Per Capita Income, Montreal, Saint John and Vancouver, 1936.

Per capita income	Expenditure		
	Montreal	Saint John	Vancouver
	$	$	$
Relief	1.55	.70	.75
Less than $300	2.55	1.60	1.30
$300–$599	3.85	2.90	1.85
$600–$899	4.45	3.45	2.20
$900 or more	4.00	3.70	2.25
Average	2.80	2.15	1.65

TABLE 2.—EXPENDITURE FOR MEAT EXPRESSED AS A PERCENTAGE OF THE TOTAL EXPENDITURE FOR FOOD IN EACH PER CAPITA INCOME GROUP, MONTREAL, SAINT JOHN AND VANCOUVER, 1936.

Per capita income	Expenditure		
	Montreal	Saint John	Vancouver
	%	%	%
Relief	32·8	16·0	14·6
Less than $300	36·2	24·2	18·2
$300–$599	38·9	29·0	18·8
$600–$899	38·5	28·8	18·0
$900 or more	35·3	29·6	15·3
Average	36·8	26·4	18·1

The proportion of the household food budget spent for meat increased in all the cities in the three per capita income groups up to the $300-$599 group, inclusive, and then declined in the higher income brackets (table 2). This was probably because housewives in the families with higher incomes were in a better financial position to supply more varied meals and there was, therefore, a greater substitution of other and possibly more expensive foods in place of meat. The decline was more pronounced in Montreal and Vancouver than in Saint John; indeed in the latter city there was a slight rise again in the proportion spent on meat in the $900 or more per capita income group.

Birthplace.—The birthplaces of the heads of the households were considered as possible influences upon the consumption of meat and the data were sorted accordingly.

As approximately 90 per cent of the heads of households interviewed in Montreal were born in Canada, the numbers of households in the other birthplace groups in this city were small. The only group containing enough households

TABLE 3.—MONTHLY PER CAPITA EXPENDITURE FOR MEAT IN GROUPS CLASSIFIED ACCORDING TO THE BIRTHPLACE OF THE HEAD OF THE HOUSEHOLD, MONTREAL, SAINT JOHN AND VANCOUVER, 1936.

Montreal		Saint John		Vancouver	
Birthplace	Expenditure	Birthplace	Expenditure	Birthplace	Expenditure
	$		$		$
Canada	2.80	Canada	2.20	Ireland	1.80
		Newfoundland	2.20		
				United States	1.80
		England and Wales	2.05		
				England and Wales	1.65
European countries other than Denmark, Germany, Holland, Scandinavia	2.20	Scotland	2.05		
				Canada	1.65
				Scotland	1.60
				Japan	1.40
				North-western Europe: Denmark, Germany, Holland, Iceland, Norway, Sweden	1.35
				European countries other than Denmark, Germany, Holland, Scandinavia	1.30
				China	0.95
Average	2.80	Average	2.15	Average	1.65

for comparison was that of countries of Europe other than those of the north-western part. The monthly expenditure for meat by that group was $2.20 as compared with the $2.80 of the Canadian group (table 3).

In Saint John, the Canadian birthplace group formed approximately 88 per cent of the total and with the Newfoundland group had the largest per capita expenditure for meat, $2.20 per month.

Vancouver afforded a greater variety of places of birth, as only about 40 per cent of the heads of the households interviewed there were born in Canada. The monthly per capita expenditure for meat by that group was $1.65, which was slightly lower than that of the Irish and American groups. The per capita expenditure by members of households of European and Asiatic immigrants was smaller. The lower incomes of the latter, due to their handicaps in earning power, probably affected their expenditure for meat. Their families, particularly those of the Chinese and Japanese groups, contained larger numbers of children, thus lowering the per capita income and also the amount of meat required per person. Where it was possible to compare per capita expenditure in the separate per capita income groups, the birthplaces, ranked according to per capita expenditure, did not maintain the same order, so that it is doubtful if the ranking given to birthplaces obtained from the whole city was due to characteristics pertaining to different places of birth.

In Montreal, the Canadian group spent for meat approximately 37 per cent of the total food expenditure, while the European group previously mentioned spent 28 per cent.

In Saint John there was a range of only 2·5 per cent between the percentages spent for meat by the different birth place groups listed in table 3. In Vancouver the range was 3 per cent.

Occupation.—The households were grouped according to the occupation of the head of the household. In the three cities the highest per capita expenditures for meat were found generally to be those of the high-earning occupational groups (table 4). In Montreal the households of executives of large businesses were only eleven in number, which was perhaps not a large enough sample. In Vancouver was found a large number of persons receiving small pensions. The unskilled labourer groups used somewhat more meat per capita than the skilled in Vancouver and Saint John, but both groups had low expenditures.

TABLE 4.—MONTHLY PER CAPITA EXPENDITURE FOR MEAT IN GROUPS CLASSIFIED ACCORDING TO THE OCCUPATION OF THE HEAD OF THE HOUSEHOLD, MONTREAL, SAINT JOHN AND VANCOUVER, 1936.

Montreal		Saint John		Vancouver	
Occupation	Expenditure	Occupation	Expenditure	Occupation	Expenditure
	$		$		$
Professional	3.60	Executive—large business	3.30	Professional	2.05
Retired or pensioned	3.35	Retired or pensioned	3.25	Executive—large business	1.90
Salesman	3.10	Professional	3.10	Executive—small business	1.80
Clerk	3.10	Salesman	2.85	Clerk	1.75
Executive—small business	3.00	Clerk	2.60	Skilled labourer	1.70
Executive—large business	2.85	Executive—small business	2.30	Salesman	1.65
Unskilled labourer	2.85	Skilled labourer	2.15	Retired or pensioned	1.65
Skilled labourer	2.80	Unskilled labourer	1.70	Unskilled labourer	1.45
Unemployed	1.65	Unemployed	0.70	Unemployed	0.95
Average	2.80	Average	2.15	Average	1.65

Comparisons were made of the expenditures for meat by occupational groups in various per capita income groups and it was then found that the occupational groups did not consistently hold the same position in the different income groups, thus showing that the occupation of the head of the household was not in itself a factor determining expenditure for meat.

In Montreal the proportion of the total food expenditure for meat ranged from approximately 33 per cent to 40 per cent in the different occupational groups. Highest percentages were found in the unskilled labourer and professional groups, and lowest in the small group of executives of large businesses and in the unemployed group. In Saint John the range was approximately 5 per cent between the high and low classes according to occupation, while in Vancouver the range was only 3 per cent.

When the groups were separated into per capita income groups there was little evidence to show that the occupation of the head of the household affected the proportion of the food expenditure devoted to meat.

Conclusion.—Undoubtedly per capita income was an important factor in determining the amount spent per person for meat in each city.

Members of households of Canadian, other British, and American birthplace groups spent more per capita for meat than did members of other groups, but that was probably a reflection of the influence of per capita income, as immigrant households were largely in the lower per capita income groups.

Occupation, aside from income, does not appear to have a marked effect on expenditure for meat.

The three cities in which data were obtained showed decided differences in the amount of meat consumed, in the expenditure per capita, and also in the proportion of the total food expenditure spent for meat.

While higher meat consumption in Montreal and Saint John as compared with Vancouver, would, under comparatively equal price conditions, naturally increase per capita and influence proportionate expenditure for meat in those cities, some of the factors influencing variation in consumption in the three cities may be found in the following.

In Montreal the difference may have been due to racial origin since 83 per cent of the families interviewed in that city were of French descent while very few persons of French origin were found in the other two cities.

The longer and more rigorous winters in Montreal and Saint John may be in part a cause of the greater consumption of meat in those cities than in Vancouver.

The greater use of fish in the two sea-board cities may have been another factor in reducing the meat consumption in those cities. The yearly per capita consumption of fish in Montreal was 16 pounds, in Saint John 24 pounds and in Vancouver 22 pounds.

In a previous article (*The Economic Annalist*, April, 1937) it was also shown that the consumption of eggs was lower in Montreal at 16 dozen per capita annually as compared with 17 dozen in Saint John and 19 dozen in Vancouver.

SOME OBSERVATIONS ON THE ORGANIZATION AND OPERATION OF TWENTY-FIVE ONTARIO MARKETS

PART II*

Ewart P. Reid

Revenue and Expenditure.—The scale of market budgets which the above-mentioned revenue systems make possible is indicated in table 7. It should be kept in mind that large portions of the incomes of some of the markets are made up of revenue from storekeepers and various dealers occupying large spaces and doing business daily. Further, no distinction is made in the expenditure item which includes both operating costs and fixed charges. More than half the markets have no fixed charges.

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* Part I appeared in *The Economic Annalist*, August, 1938.

Table 7.—Average Receipts, Expenditure, and Profit of Twenty-five Ontario Markets Grouped According to Population[1]

Population interval	Number of markets	Average receipts	Average expenditure	Average profit	
		$	$	$	%
10,000 and under	5	670	208	462	69
10,001–20,000	6	3,202	1,132	2,070	65
20,001–30,000	4	3,550	1,657	1,893	53
30,001–40,000	2	7,087	2,120	4,967	70
Over 40,000	8	20,172	12,503	7,669	38
	25	8,493	4,749	3,744	44

[1] Compiled from official figures.

The Market Place.—Twenty of the markets have buildings to house vendors. Twelve markets use a one-storey structure (or one floor of a building), and seven have two floors or two buildings of one floor each. On the basis of total area inside the selling part of the building, including selling aisles, stoves, doorways, etc., the one-floor group averaged 39 square feet per stall, and the other group 58 square feet. All the one-floor markets are provided with adequate heating facilities, and the same may be said of the others, except parts of Windsor and St. Lawrence, each of which is very large. Sanitary conveniences, lighting, and other equipment vary in quality and availability, but no market is entirely without such facilities.

Only one market, St. Clair-Bathurst, has no outdoor activity at any season, while five are entirely open; namely, Ottawa, St. Catharines, Niagara Falls, Brockville, and Hagersville. To this list might be added St. Thomas, where the small building is used by butchers only some of whom are producers. All the entirely open markets have over 100 stalls, and they average 220 stalls. Seven other markets have each over 100 stalls outdoors. Of these it is considered that those at Hamilton and London are distinctly more important in their open aspects than in their indoor facilities, and the rest have their business somewhat evenly divided between indoor and outdoor selling. Medium-sized outdoor market spaces are in use at Peterboro, Chatham, and Woodstock, each having between 70 and 100 stalls. Smaller outdoor facilities ranging from 10 to 50 stalls are available at three Toronto markets, Windsor, Guelph, Waterloo, Cobourg, and Picton, and only at the latter two are the outdoor portions significant in the whole market scheme.

Twelve markets have portions which are covered but not enclosed, and the importance of these sheds in each market may be observed in table 1. The dimensions of an indoor stall in a market where dairy and poultry products are mainly offered indoors is about three feet square, together with standing or sitting space for the vendor. Where vegetables and general garden produce are carried indoors the table space is typically double. Outdoor stalls usually are laid out to accommodate a vehicle, that is, frontage on the selling aisle or sidewalk is 6 to 10 feet, and in addition to the space upon which the vehicle stands, there is sometimes a display area about three feet wide. Where tables are not supplied or built into the market plant, sellers supply their own.

Market Regulations.—Most markets have regulations which recognize huckstering as a type of selling to be controlled on a special basis. In this way the primary function of a city market as a regular meeting of growers and consumers is recognized. Four markets are closed to hucksters, and another has no such type of vendor. Most of the others either segregate them in one portion of the market or assess them heavier tolls. Seventeen markets recognize the tendency of farmers to sell, at least to some extent, other than their own production. Of these, seven require 100 per cent production of a grower, one sets the figure at 85 per cent, three at 80 per cent, four at 75 per cent, and two at 50 per cent. The rigidity of the enforcement of these regulations varies. At Hamilton and North York affidavits supported by responsible witnesses are obtained, and the former city prosecutes violators. In other instances the percentage required is merely set out in the by-law, and little check on degree of compliance is made.

Inspection of meat is made by city representatives in some cases, and where such is not routine, the clerks or city health officers have authority to deal with any observed offences against proper sanitary standards. Eggs and fruits and vegetables are subject to inspection of Dominion officers on all markets. The same officers may within the year prosecute under the provisions of a provincial law governing fruit and vegetable standards.

Conclusions.—The reorganization or rebuilding of a market might well follow certain basic trends noted in this survey. Location must be determined after recognizing the importance of custom, which must favour an established downtown site, as against requirements of space for adequate facilities and for parking, which might point the way to an area of lower land values. The design of the market place will depend upon the size of the centre, as well as upon the extent of the wholesale business, the type of produce likely to be offered, and the funds available. The expenditure for physical structure must not be so great as to put too much burden upon the enterprise in subsequent years. However, most of the markets described in this article had a considerable margin of operating profit, which might reasonably be devoted to improvement of facilities or even expansion from time to time. Poultry and dairy products benefit from an enclosed structure, which need not be large, as the display space required by each producer is small. The main portion of the general market could be covered by a roof with generous overhang above the vehicles. Satisfactory marketing can, however, be conducted on most days in the open with good pavement and arrangement of vendors, and for this reason a conservative program of provision of shed might be adopted, the extension of such a structure from the centre of the market being proceeded with only as real need is manifest.

The zoning of a market according to type of vendor and produce offered will prove desirable. Such concentration of like types will occur naturally, and it would be well to see that it follows lines most beneficial to sellers and buyers. A decision should be made early as to whether storekeepers are to be admitted as tenants on market property. They are not, perhaps, indispensible to the real functions of a market, but flock to it rather because the buying public, which has sought out the producers, is close at hand to be attracted into shops. Such tenants from the point of view of market revenue appear to be valuable, and markets which accept them obtain a very considerable portion of their revenue in that way (in the case of the St. Lawrence market, 100 per cent). The temptation to place the interest of shopkeepers ahead of that of farmers whenever a clash should occur is apparent. While most markets steer a middle course between serving big tenants and farmer patrons, Hamilton amongst the large markets has gradually eliminated all but producer users of its market.

In cities the size of Ottawa and Quebec, where much wholesale trade in local fresh produce is carried on, and where producers may wish to obtain such trade in addition to consumer trade, a central combined type of market such as now serves Ottawa may be indicated. Favourable accommodation for stalls and vehicles of all legitimate vendors and some regard for parking needs of retailers' and consumers' cars will better contribute to the main market purpose than admission of such tenants and sellers as seem to provide chiefly ready revenue.

THE WHOLESALE FRUIT TRADE—A COMPARISON OF TRADING RESULTS IN 1929 AND 1936

W. F. Chown

The Economics Division has recently completed a study of costs in the wholesale fruit trade for the years 1935 and 1936. Some data on wholesale costs in Toronto and Montreal had been obtained in 1930 and thus it is possible to compare trading in the year 1929 with the year 1936. Detailed information for both years is available for six firms.

The sales of these six firms amounted to $5,248,758 in 1929 and to $5,311,345 in 1936 (table 1) The Dominion Bureau of Statistics wholesale price indexes (1926 = 100) were 91·3 and 75·9 for fresh fruits and vegetables respectively in 1929 and had decreased to 80·4 and 69·7 in 1936. Therefore the slight increase in the amount of sales, measured in dollars, in 1936 over 1929 probably represents a quite substantial increase in volume measured in tons or packages. In spite of this increase in physical volume the cost of distribution was substantially less in 1936; expenses had decreased from $449,767 to $373,026. However, gross profit had dropped from $502,316 to $358,851 so that in 1936 these six dealers failed by $14,175 to make 5 per cent on their investment whereas in 1929 there was sufficient margin to cover interest and provide an additional profit of $52,549. The most likely explanation of the decrease in gross profit is keen competition for business in a well supplied market suffering from a lack of purchasing power. The increase in competition was present both within and without the trade; many trucker-dealers had found an opportunity to start in business during the depression period.

Table 1.—Comparison of the Trading Operations of Six Wholesale Fruit Firms for the Years 1929 and 1936

—	1929	1936
	$	$
Sales	5,248,758	5,311,345
Gross profit	502,316	358,851
Total expense	449,767	373,026
Profit or loss after interest	52,549	−14,175
Interest on investment included in expense	24,026	25,762

The average results of trading for these six firms for 1929 and 1936 are shown in table 2 with sales equal to $1,000. In 1929 gross profit was $95.70 per $1,000 of sales but in 1936 this had been cut to $67.56. So far as sales on consignment are concerned the rate of commission was the same in both years; e.g., 12½ per cent of the selling price in Toronto, and with lower prices both grower and wholesaler received less per package. Total expense was lower by $15.46 per $1,000 of sales, having decreased from $85.69 in 1929 to $70.23 in 1936 on the average for these six firms.

The most substantial cut occurred in salaries and wages which were reduced $8.64 per $1,000 of sales from $46.07 to $37.43. Although complete data are not available with respect to principals' salaries they were higher in 1929 than in 1936 in those cases where this information was available. Provision for bad debts decreased from $5.22 to 93 cents, a difference of $4.29 per $1,000 of sales. Interest and bank charges were down to $7.59 from $9.42. Rents and other income received increased slightly which also helped to reduce total expense. Rent expense remained about the same but cartage and delivery and telephone and telegraph had increased appreciably. In 1929 there was an average profit of $10.01 and in 1936 an average loss of $2.67, a difference of $12.68 per $1,000 of sales.

Table 2.—Comparison of Trading Operations and Costs for the Years 1929 and 1936.
Six Wholesale Fruit Firms in Toronto.

—	1929	1936
	$	$
Sales	1,000.00	1,000.00
Cost of sales	904.30	932.44
Gross profit	95.70	67.56
Expense:		
Rent, light, heat and power	2.74	2.75
Depreciation of buildings, furniture and fixtures	1.93	1.08
Taxes	1.19	1.25
Insurance	1.59	.88
Advertising	.68	.33
Provision for bad debts	5.22	.93
Cartage, delivery and auto expense	8.82	9.73
Travelling	1.37	1.40
Salaries and wages	46.09	37.43
Stationery	1.26	1.09
Telephone and telegraph	2.80	3.17
General expense	4.47	5.08
Interest and bank charges	9.42	7.59
Less: Rent and other income received	−1.89	−2.48
Total Expense	85.69	70.23
Net Profit	10.01	−2.67
Interest on investment included above	4.58	4.85

The operating results of the six firms are shown individually for both years in table 3. Five firms (A, B, C, D, F) obtained a greater profit in 1929 than 5 per cent on their investment. Except for D, all failed to make this in 1936 and all five showed a decrease in net profit in 1936. Four of these firms, B. C, D, F, had a lower gross profit in 1936 than in 1929 and all but F had lower expenses. However, gross profit had decreased more than expense so that the net result was a loss or substantial decrease in profit. Firm A increased both gross profit and expense in 1936 and the result was a substantial loss. Firm E was an exceptional firm; the gross profit increased from $103.69 in 1929 to $113.67 per $1,000 of sales in 1936; total expense increased also, but not by so much; in 1929 the loss after interest was $3.66 but this was slightly less at $3.42 per $1,000 of sales in 1936.

In 1929 the average profit for nine firms was $6.25 per $1,000 of sales. For the two years 1935 and 1936 the loss averaged $2.93 per $1,000 of sales for thirteen firms in Montreal and $5.54 for eighteen firms in Toronto. According to this information and judging by the sample of six firms compared above, the wholesale fruit business was quite profitable in 1929 but had become considerably less profitable from the wholesalers' point of view during the depression and in 1936 was not profitable on the average. It cannot be determined from these data whether the benefit of a narrower margin was passed on to the grower or to the consumer but indications are that most of the saving went to the consumer.

Table 3.—Comparison of the Operations of Individual Firms Handling Fruits and Vegetables, Toronto Market, for the Years 1929 and 1936.

—	A		B		C		D		E		F	
	1929	1936	1929	1936	1929	1936	1929	1936	1929	1936	1929	1936
	$	$	$	$	$	$	$	$	$	$	$	$
Sales	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
Cost of Sales	913.24	903.66	876.23	914.69	902.31	941.25	897.39	941.84	896.61	886.33	918.93	933.20
Gross Profit	86.76	96.34	123.77	85.31	97.69	58.75	102.61	58.16	103.39	113.67	81.07	66.80
Expenses:												
Rent, light, heat and power	2.03	3.95	2.30	6.53	1.51	2.47	2.37	.53	10.76	8.86	1.99	2.97
Depreciation of buildings, furniture and fixtures	.19	1.99	.35	.30	.83	....	3.14	2.15	2.23	3.20	1.72	....
Taxes	1.60	3.74	.65	1.24	.93	1.00	.26	.27	3.68	4.35	1.53	2.07
Insurance	1.85	1.57	.58	.54	1.25	.38	1.25	.60	3.04	1.67	1.90	1.94
Advertising	.87	.21	1.15	.85	.27	.07	.31	.30	3.69	1.28	.28	.15
Provision for bad debts	2.91	6.65	2.06	.25	3.97	—.02	11.98	.65	1.80	2.57	2.46	1.60
Cartage, delivery and auto expense	9.28	14.40	12.78	8.56	12.14	12.99	9.27	6.20	9.88	15.02	4.08	10.48
Travelling	.48	1.48	.98	1.07	.38	.37	2.68	1.08	5.09	2.35	.20	3.36
Salaries and wages	37.80	65.60	82.74	54.53	51.82	30.82	40.21	32.40	53.80	56.71	37.97	34.25
Stationery	.87	2.52	1.34	.85	1.12	.83	1.01	.98	2.96	2.68	1.29	.93
Telephone and telegraph	.75	2.13	1.94	3.32	4.45	2.65	.91	3.22	1.54	3.43	4.38	3.83
General expense	4.07	7.63	5.67	5.03	5.00	5.18	3.88	3.79	5.45	7.44	4.10	6.33
Interest and bank charges	6.28	6.76	9.69	6.16	6.58	6.62	7.96	5.31	13.84	15.27	12.79	11.97
Less: Rent and other income received	−1.04	−3.15	....	....	....	−1.99	—.72	−1.72	−10.43	−8.02	−2.69	−4.29
Total Expense	67.94	115.48	122.23	89.23	91.25	61.37	84.50	55.76	107.05	117.09	72.00	75.59
Net Profit (after interest)	18.82	−19.14	1.54	−3.92	6.44	−2.62	18.11	2.40	−3.66	−3.42	9.07	−8.79
Interest at 5% on average investment included above	4.17	4.78	5.10	3.45	4.28	3.54	4.55	4.69	5.55	6.74	4.56	7.51

CO-OPERATIVE PROGRESS IN CANADA

A. E. Richards

Producer co-operatives in Canada which have stood the test of time through competition, depressions, crop failures and other hazards which all business must face had their beginning in a small way. As a protest to trade abuses or seeing an opportunity to make savings a small but interested group got together and formed an association. As the movement grew there was amalgamation through the federation of locals on a regional or provincial basis and a number extended their activities to a national or Dominion-wide basis.

Co-operative organizations now hold a useful position in the movement of farm products to market and the purchase of farm supplies and they have gained an important place in the field of Canadian business. Compared with Canada's fifteen leading manufacturing industries which include the pulp and paper industry, central electric stations, automobiles and petroleum products, farmers' co-operatives rank first in number of establishments, fourth in capital invested and third in gross sales value of products.

Co-operative Business and Financial Solvency.—A summarized balance sheet and statement of the business of farmers' marketing organizations is presented in table 1. A study of this table shows that the co-operatives maintained their position during the past six years from the standpoint of membership and volume of business and have come through the period of economic strain in an improved financial condition. The decline in value of sales to the low point in 1932 and subsequent rise is due almost entirely to the changing level of prices.

Table 1.—Summary of Annual Statements showing Financial Structure, Condition and Sales of Co-operative Business Associations in Canada, 1931 to 1937

Crop year	Associ-ations	Places of business	Share-holders	Total business including other revenue	Working capital*	Net worth as per cent of total assets
				$	$	%
1931–32	795	3,501	379,687	145,331,251	2,546,691	66·0
1932–33	686	3,057	342,369	115,849,894	4,476,698	52·2
1933–34	690	3,223	345,024	136,411,483	7,871,839	46·3
1934–35	697	3,301	341,020	130,384,891	11,026,406	47·4
1935–36	781	3,266	366,885	158,165,565	15,797,223	59·6
1936–37	1,024	3,987	396,918	173,927,117	14,913,876	58·3

Table 1—*Continued*

Crop year	Total assets	Value of plant	General liabilities	Paid-up share capital	Reserves and surplus
	$	$	$	$	$
1931–32	70,226,288	45,607,366	22,072,231	8,570,488	37,805,137
1932–33	90,003,261	42,520,970	43,005,593	8,224,016	38,773,652
1933–34	104,350,702	40,432,859	56,046,004	8,722,451	39,590,050
1934–35	105,183,565	38,850,488	55,306,671	8,933,425	40,943,469
1935–36	85,751,901	35,289,468	34,665,210	8,954,135	42,132,556
1936–37	87,938,453	36,338,952	36,685,625	9,265,747	41,987,081

*Working capital, as used in this table, is the excess of assets less value of plant over general liabilities.

From 1931 to 1934 total assets increased from $70,226,288 to $105,183,565 or by 50 per cent. This was due to increased inventories mainly brought about by the accumulation of stocks of grain. Due to the fact that the co-operative marketing associations made advances to their members against the product and had to borrow money from the banks to do so, there was a corresponding increase in general liabilities. From 1935 to 1936 the co-operatives decreased their general liabilities by $20,641,461 or 37 per cent. In other words the companies paid off over twenty millions of debts during the year. This was possible because of the liquidation of inventories, chiefly grain, and the reduction of accounts receivable due to improved economic conditions. Assets other than plant, mainly current assets were reduced from $66,333,077 to $50,462,433 or by 24 per cent. As a result of these changes in capital structure, the general financial standing of the co-operatives was considerably strengthened. Reserves and surplus have increased from $37,805,137 in 1931 to $41,987,081 in 1936. For all companies regarded as a unit the ratio of assets except plant to general liabilities which approximates the current ratio moved from 1·12 to 1·41 from 1931 to 1936 and during the same period working capital increased from $2,546,691 to $14,913,876. In the other words the co-operatives as a whole have $1.41 of readily convertible assets with which to pay off each dollar of their total debts to outsiders. The net worth ratio has shown improvement since 1933. In 1936 the members equity or claim on assets amounted to 58 per cent. This might be expressed more tritely by saying that, "the co-operatives are standing on their own feet".

Too frequently size of business is used as the measure of co-operative strength. It is only when size is supported by a sound financial structure, tested for current and ultimate solvency that the true character of the business is revealed. Canadian co-operatives have passed these tests and appear to be permanently established in the commercial life of the Dominion.

ECONOMIC LITERATURE

FARM CREDIT IN CANADA. W. T. Easterbrook. Department of Political Economy, University of Toronto, The University of Toronto Press. 1938. 260 pages. In England, Humphrey Milford, Oxford University Press.

This volume sketches the growth of Canadian agriculture since the days of early settlement and traces the development of farm credit which accompanied it. The author writes in the preface: "A history of farm credit up to the advent of provincial lending agencies in 1917 has been sketched as a background to a study of governmental intervention since the war. The relation of state action in credit to other forms of government assistance to agriculture has been suggested."

The first part of the book paints a necessarily broad canvas of the historical development of agriculture and agricultural credit to 1917 and the second part is descriptive of governmental action—both Dominion and Provincial, in regard to farm credit.

Dr. Easterbrook points out that Canadian agriculture remained a subsidary industry until well into the nineteenth century, for the early development was around the fishing industry and fur trade. Hence strong trading and commercial interests arose which were not primarily interested in assisting financially a still almost primitive agriculture. Indeed, "it was only after 1821 when the fur trade had given way to lumbering that the interests of the commercial and trading classes began to coincide with agricultural progress." In contrast to this dependence of agriculture upon other primary industries, the early pre-eminence of agriculture in what is to-day the United States, particularly in the South, had a far-reaching effect on later developments in rural finance.

Early state intervention in Canada was not so much directed toward encouraging agriculture directly, for it was, in the very early period, more concerned with military defence and in encouraging settlement and later in arranging credit facilities for lumbering, transportation and for the general industrial development of the country. "Capital imports on a large scale were necessary; financial institutions as yet lacked the prestige necessary to attract funds for investment in sufficient volume, and it fell to the government to open channels of investment."

It would be incorrect to conclude that no direct government assistance was given to agriculture during this period, for in fact much was given, and this, together with a description of the growth of the private, co-operative, and other credit agencies which were available to the farmer is discussed by the author.

This broad program of encouraging investment for the industrial development of the Country was of course of much indirect benefit to agriculture, and to a certain extent lessened the need for a more direct approach. This was particularly true of the East, though the later development of the Western Provinces involved more immediate direct government intervention. The emergence of agriculture as a major primary industry, however, inevitably brought with it the need for more direct credit assistance from government and a greater measure of intervention designed to help the farming community.

Dr. Easterbrook's book is very completely annotated and the author has made the wise choice of presenting the notes in a separate section at the end of the volume. A précis of many of the references adds much to the value of this bibliography.

AGRICULTURAL SITUATION AND OUTLOOK, 1939

Preliminary work has begun on the preparation of the Agricultural Situation and Outlook for the forthcoming year. This annual review of the position of Canadian agriculture is designed to assist farmers in planning their business operations and as in previous years, the report will be available early in the New Year.

The demand for many Canadian farm products is greatly influenced by the international trade situation and for this reason a most comprehensive study must be made of world conditions to ascertain the possible effect upon Canadian agriculture. The domestic situation must not be overlooked for this has a direct bearing upon the demand for farm commodities.

The report will be prepared by the staff of the Departments of Agriculture and Trade and Commerce of the Dominion Government, assisted by representatives of colleges and Departments of Agriculture in many of the Provinces. The general meeting will be held on the last three days of November.

As in previous reports, sections will be devoted to the domestic situation, international trade conditions, the feed and seed situation and in addition separate reviews of all farm enterprises will be included.

NOTES

Production of all coarse grains in Canada in 1938 is larger than in 1937, due chiefly to improved yields in Saskatchewan and Alberta.

A preliminary estimate of the production of flue-cured tobacco in Canada places the total yield at approximately 60 million pounds from 65,000 acres.

The production of creamery butter for August is estimated at 35,200,000 pounds, an increase of 11 per cent over August, 1937. Cheese production in August was 19,500,000, a decrease of 12 per cent from August a year ago.

It is estimated that the area seeded to wheat in Argentina shows an increase over that of a year ago.

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The
ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE ECONOMICS DIVISION
MARKETING SERVICE
DEPARTMENT OF AGRICULTURE
OTTAWA

DEC 16 1938
University of Toronto

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ECONOMIC SITUATION

Business in a number of leading industries has shown considerable improvement during August and September and trade index figures in this country and also in Great Britain and the United States indicate that the general decline experienced during the early months of the year has been halted in all three countries. In view of the important place these two countries take in Canada's export trade, this general improvement makes the future outlook more encouraging than it has been for some considerable time.

Although business activity in Canada during the first nine months of 1938 has been considerably less than the corresponding period a year ago, it has been on a slightly higher level than during 1936. The index of the physical volume of business (1926=100) for the first nine months of 1938 averaged 110·6 against 121·8 in 1937.

Canada.—Business showed a sharp advance during September when measured by the index of physical volume and the index of industrial production. It seems uncertain, however, as this is written, whether the higher level of activity will be fully maintained through October. Exports of copper, nickel, zinc and asbestos increased during September over the preceding month and the foodstuffs industry, meat packing and fish canning plants were more active. The textile and forestry industry showed an upward trend and pig iron production recorded a small gain. Increased operations were shown in the paper industry and the output in September was larger than in any month of the present year. Output, however, is still 25·7 per cent below that of September, 1937.

Prices.—The wholesale commodity price index moved downward during September and October, and on October 28, the weekly index at 73·9 was 12·5 per cent below the corresponding period a year ago. Since mid-September, however, the weekly indexes have tended to become more stable and the actual decline has only been one point between that time and November 11.

Although wheat prices advanced somewhat during part of September because of the critical European situation, the gains were not held and the average price for the month was 63·6 cents a bushel, cash at Fort William. In face of large potential exports of wheat from Argentina and Australia, prices were easier during October at an average of 61·5 cents a bushel.

Average prices for livestock during September and October were generally lower in most classes. Egg prices showed improvement during both months and butter prices remained firm. Stocks of creamery butter are estimated on October 1, to be 8 million pounds higher than a year ago, with a reported increase in production during September.

Reductions in foods and rentals partially offset seasonal gains in fuel and the index of cost of living declined one point during the two months under review.

Annual and Monthly Index Numbers of Prices and Production Computed by Dominion Bureau of Statistics

Year	Wholesale Prices 1926=100				Retail prices and cost of services (5)	Production (6) 1926=100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·4	57·1	73·9	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·8	112·3	114·4	82·7	141·3
1937....	84·5	84·5	85·7	84·9	83·1	122·8	120·8	49·4	157·3
1937									
Oct.....	84·7	86·4	86·3	86·5	84·2	127·4	132·6	55·3	137·2
Nov....	83·1	84·0	81·9	87·4	84·2	127·9	133·5	57·6	138·5
Dec....	82·7	84·2	83·9	84·6	84·3	121·4	125·2	35·5	138·9
1938									
Jan.....	83·8	86·3	88·8	82·2	84·0	111·8	113·5	37·6	135·1
Feb....	83·6	85·1	87·5	81·1	83·9	106·7	107·4	25·7	137·2
Mar....	83·1	83·0	83·8	81·7	84·2	108·8	110·2	29·7	133·4
April...	82·3	82·5	83·2	81·2	84·2	112·4	114·2	38·3	131·9
May....	80·3	77·3	74·6	81·8	84·1	110·7	112·5	41·1	157·8
June....	80·1	76·6	74·3	80·5	84·0	108·4	109·3	20·6	188·3
July....	78·6	71·5	65·9	80·8	84·1	109·1	109·8	40·3	142·7
Aug.....	76·0	64·2	54·9	79·7	84·8	110·5	110·8	89·2	139·2
Sept....	74·5	62·4	51·2	81·1	84·0	119·2	120·7	123·9	135·1
Oct....	74·1	63·8	53·6	81·0	83·8	118·6	121·1	145·6	138·8

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1935, p. 17.

2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1935, p. 53, and Monthly Mimeographs 1937 and 1938.

3. Wholesale prices of grains, fruits and vegetables.

4. Wholesale prices of Animals and Animal Products.

5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.

Prices and Price Indexes 1913-1935, p. 117, and Monthly Mimeographs, 1937-1938.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

Yearly index numbers for 1937, subject to revision.

United Kingdom.—Indications during October point to an improving tendency in trade and industry. This may be caused in part by new orders which were withheld during the uncertainty of the European crisis during September. Apart from this, however, industrial activity has been fairly well maintained since midsummer and the severe decline of the first part of 1938 would appear to be halted. Although the index of business activity has fallen by about 10 per cent during the last twelve months, the index of unemployment has declined by only 2½ per cent. A suggested explanation of this is that employers have met the decline in business by putting their staffs on short-time rather than by actual dismissals.

The Ministry of Labour returns on the employment situation show a slight decline in employment during September. The number of registered unemployed on September 12, 1938, was 1,798,618 as compared with 1,759,242 on August 15. Declines in employment were recorded in the building and distributive trades, hotel service, the cotton and iron and steel industries, certain branches of engineering, fishing, food manufacture and port transport. Increased employment was shown in the wool, textile, carpet, hosiery, pottery, boot and shoe, and clothing industries, and in coal mining.

Overseas trade figures issued by the Board of Trade record a sharp decline during the twelve months ending September, 1938, as compared with the corresponding period of 1937. The adverse balance of merchandise trade, however, which has tended to narrow for some time was improved further by the figures for September when the total of British exports was the highest reached since last March and was accompanied by a decline in imports. The excess of imports over total exports for the first nine months of 1938 at £298 million was approximately the same as for the corresponding period of 1937 and the adverse balance for September of this year was about £6 million more favourable than during September, 1938.

Wholesale prices continued the decline which began in January. In that month the Board of Trade index (1930=100) was 107·7 compared with 98·4 in September. The Ministry of Labour Cost of Living index (1914=100) stood at 155 in October and has fluctuated narrowly throughout the year.

The United States.—Business activity in the United States has shown marked improvement since June. The index of the volume of industrial production of the Federal Reserve Board reached 76 in May, the low point of the recent recession, improved to 77 in July and by September was 91, the highest figure since October, 1937. Consumption of many industrial products has exceeded production in recent months and inventory stocks have been brought to a low level. This has given a much needed impetus to production and factories have increased schedules. This is particularly true of consumers' goods such as textiles, leather, meats and tobacco, though the improvement has been general enough to embrace most commodities. Factory employment and payrolls in face of this increased productive activity, rose sharply from June to August. Despite the improved domestic demand situation, farm prices have not shown any very marked advance, probably because of the large supplies of agricultural commodities on hand. The outlook for increased farm income is, however, more favourable than during the 1938-39 season when the trends in industrial activity and consumer income were considerably less satisfactory than they are at the present time.

The general improvement is reflected in freight car loadings, which recently have shown more than the usual seasonal increase. The movement during September was 10 per cent higher than in May, the low month of the present year. Most of the major commodities, with the exception of grains and grain products, have shared in this gain. Retail trade has also experienced increased sales and during September the volume of departmental store sales was only 7 per cent lower than the corresponding month of 1937.

Canada was the fourth largest exporter by value of commodities in the world for the first nine months of 1938. The figures which are prepared by the League of Nations, based on the former gold dollar of the United States, place the United States, the United Kingdom and Germany before Canada.

SOME ASPECTS OF LAND SETTLEMENT IN NORTHWESTERN QUEBEC, 1936-37

A. Gosselin and G. P. Boucher

The study of land settlement on which this article is based was undertaken by the Economics Division of the Marketing Service, Dominion Department of Agriculture during the months of August and September, 1937.

Great interest in the possibilities of land settlement has developed during recent years. In addition to being the means of opening up new territories, it offers the opportunity of establishing farmers' sons on the land who would be unable in most instances to become farm owners in older sections of the province, and further, it is a means of lightening the burden of unemployment in cities.

The purpose of this study is to obtain some information of an economic character on land settlement in Northwestern Quebec. It deals mostly with the costs of settlement to the State and to the individual settler and with the various sources of income available to the settler in the first years of his establishment. Some factors which contribute to the success of land settlement, such as the capital at the disposal of the settler, his age, his previous occupation and his experience in farming have also been studied.

Quebec Province has always taken a vital interest in land settlement. As early as 1923 the Provincial Department of Colonization gave financial help to settlers and numerous colonization schemes have since been devised with a view to opening up new territories and providing means whereby settlement would be facilitated.

A brief sketch of the various land settlement schemes introduced since 1923 is given below in order to show the changes which have occurred in colonization policy in the Province.

Premiums for Land Clearing[1].—In 1923 the Government granted a premium of four dollars per acre to all settlers, whose lots were not patented, for the five acres they were required to clear under their certificate. In 1924 this premium was increased to six dollars and in the month of May, 1925, it was further increased to eight dollars. The rate was raised to twelve dollars at the 1928 session of the Legislature and another premium of twelve dollars, called the premium for "first ploughing" which extended to five acres per year to settlers residing on their lot, was granted. For settlers who did not reside on their lot, the clearing premium was fixed at eight dollars and that of "first ploughing" at six dollars.

Changes in the allocation of premiums to settlers were made in 1933. Since then the premiums payable have been: $300 for settlers with six children or more; $200 for married settlers; $100 for bachelor settlers. These premiums are paid in instalments of $50 a year, $10 an acre being given for sowing with forage seeds, land which has been burnt and cut over.

Ploughing Premiums.—$150 for settlers with six children or more. $100 for married settlers. $50 for bachelor settlers. This premium is issued in payments of $50 a year at the rate of $10 per acre, on the basis of first ploughing.

Gordon Land Settlement Scheme[2].—In accordance with an agreement made at Ottawa, July 16, 1932, the Federal and Provincial Governments with the co-operation of interested municipalities undertook to subscribe the sum of $600 per settler towards establishing unemployed persons on colonization land, $500 to be granted in the first and $100 in the second year.

The maximum amount of $600 was to be divided between the three contracting parties, that is to say, the Dominion Government, the Provincial Government and the interested municipalities each agreed to pay one-third of the total cost for the establishment of each would-be settler.

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[1] Quebec Statistical Year Books.

[2] From the Report of the Director of the Relief Settlement Branch in the general report of the Quebec Department of Colonization for the year 1933.

A Commission composed of representatives of the Dominion and Provincial Governments and Railway Companies formulated the policies of this movement and ratified the selection of settlers.

A would-be settler wishing to receive this grant had to pass a physical examination and fulfil the following requirements:—

(*a*) Be unemployed;
(*b*) Be under the Public Assistance Act or liable to be so shortly;
(*c*) Possess an elementary knowledge at least of agriculture;
(*d*) Be, with all the other members of his family, in good health, and have a strong constitution appropriate to farm work;
(*e*) Be courageous, hard-working, thrifty, and in brief, possess all the qualities demanded of a settler.

Whenever possible, an investigation was made at the home of each proposed settler.

Expenses of Settlers.—The expenses of the settlers were closely supervised by the inspectors of the Department of Colonization, to insure that the grants were spread over a considerable period.

The grant for the first year was divided as follows: Transportation, $125; construction, $150; clothing, $25; food and other necessities, $200; leaving $100 for the succeeding year.

In the spring of 1934 the grant was increased to $700 and in the spring of 1936 it was further increased to $1,000. During the first two years a family may not spend more than $820 out of this grant and $100 is withheld for the third year and $80 for the fourth. Upon recommendation of the Provincial Advisory Committee, however, the whole $1,000 may be used before the end of the second year.

Settlers established under the Gordon Scheme were also entitled to receive land clearing and ploughing premiums paid to all settlers according to the Quebec Land Settlement Policy of 1933.

The maximum amount of government assistance including premiums which would be received by a settler under the Gordon Scheme during the first five or six years of his establishment was between $1,050 and $1,150. In addition to that, most settlers received a substantial amount of money as direct relief.

Vautrin Colonization Plan.—The Vautrin Colonization Plan was the outcome of a provincial convention on colonization problems held in Quebec City on October 17 and 18, 1934. This plan was put into operation at the beginning of May, 1935. It may be divided in two main parts:—

1. Assistance to people desiring to establish themselves on new lots.
2. Establishment of farmers' sons.

Referring to item No. 1, settlement might be undertaken in two ways: (*a*) by groups; (*b*) by isolated settlers.

(*a*) *Group Settlements.*—To groups of 50 settlers, the Quebec Department of Colonization provided assistance as follows:—

1. *A free railway ticket.*
2. *Road work.* $1.60 a day for two months; out of that amount, 60 cents per day was deducted for board and personal expenditures. At the beginning, $1 per day was set aside for transportation of family and settler's household equipment.
3. *Building premium.* A premium of $100 was made available for the construction of the settler's home, providing it was built according to specifications required.
4. *Establishment premium.* A premium varying from $30 to $75 was provided to take care of the settler's needs; on arrival in the settlement it was paid at the rate of $6, $10 or $15 per acre, depending upon the settler's financial position.
5. *Clearing and sowing premiums,* as under the Quebec Land Settlement Policy of 1933.

6. *Premium* to settlers in financial distress during the winter, varying from $30 to $100 based upon necessities.

(*b*) *Settlement of Isolated Settlers.*—They may enjoy the same privileges as the group settlers except that—

1. No free railway ticket was allowed.
2. No work on the roads at the expense of the Government was provided.

In 1936, the Establishment Service paid the settlers immediately for any work done on the roads. Not one dollar was put aside for transportation of families or other purposes as in 1935. The "isolated settlers" received a premium of $150 instead of the premium of $100 for house building and the establishment premium they received in 1935.[3]

To insure the stability of certain settlements and make possible the erection of new buildings or to repair houses which had become unfit for habitation, the Department arranged that certain saw-mills be erected and to this effect a bonus of $300 was given in two payments of $150 each. The first payment was made on completion of the saw-mill and the second twelve months later. Settlers working on the roads were paid two dollars a day.

The maximum amount of government assistance which settlers under the Vautrin Scheme might receive during the first five or six years of their establishment either as special grants or premiums varies between $700 and $800.

It might also be added that for a few years the Quebec Department of Colonization has been giving to the newly-established settlers enough grass seeds, grains and potatoes for seeding purposes.

SETTLERS' INCOME

Colonies Visited.—Communities or parishes located in colonization districts are usually referred to as "colonies." The same designation is used throughout this article. The settlers interviewed in the nine colonies visited in Northwestern Quebec were selected according to the date of establishment and the schemes under which they had been settled. Some settlers who had not benefited by any scheme were also interviewed. The five colonies of Ste. Gertrude, St. Felix, La Sarre, Palmerolle, Roquemaure and Macamic are located in Abitibi County, while the three colonies of Montbeillard, Fugerville and Moffette are located in Temiscamingue County.

Settlers' Assets at Beginning.—Some settlers had certain assets when they arrived in colonization districts. About 75 per cent of those visited had household goods, 38 per cent had a small amount of cash and credit, 24 per cent had some live stock and 18 per cent had some farm equipment.

Main Sources of Income.—The main sources of income for the newly established settler are governmental assistance given in yearly allotments (Gordon and Vautrin Schemes), premiums for clearing and ploughing, direct relief, labour off farm and sales of wood. During the first five or six years of settlement, the revenue derived from the sale of farm produce does not amount to a great deal, as most of the produce is used for consumption on the farm and in the home.

It will be seen in Table 1 that families established in Ste. Gertrude, St. Felix, Roquemaure and Montbeillard received more money under the Gordon and Vautrin Schemes than families established elsewhere. Most of these families had only been established for a period of five or six years, while in the other colonies most of the families had been established before these schemes were put into operation. In Moffette, almost all the families interviewed had only been established during the years 1932 and 1933 and some benefited by the Gordon or the Vautrin schemes. They received, however, land clearing and ploughing premiums and in some cases direct relief.

The Roquemaure colony was started under a scheme rather unique in character. The first settlers arrived on August 6, 1933. In January 1934, the

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[3] Report of the Quebec Department of Colonization for the year 1936.

Table 1.—Total Governmental Assistance to 196 Families of Settlers in Certain Colonization Districts of Northwestern Quebec.

Locality	Number of records	Money granted under Gordon & Vautrin Schemes		Premiums granted		Direct relief		Total governmental assistance	
		Total	Average per family	Total	Average per family	Total	Average per family	Total	Average per family
		$	$	$	$	$	$	$	$
Ste. Gertrude	43	17,655	411	13,177	306	6,491	151	37,323	868
St. Felix	29	1,785	62	7,037	243	1,847	64	10,669	368
La Sarre	11	....	....	1,814	165	....	....	1,814	165
Palmerolle	7	....	....	2,014	288	598	85	2,612	373
Roquemaure	25	2,030	81	3,108	124	1,306	52	6,444	258
Macamic	28	....	....	2,806	100	....	....	2,806	435
Montbeillard	35	20,400	583	7,701	220	8,366	239	36,467	1,042
Fugerville	8	....	....	151	19	....	....	151	19
Moffette	10	....	....	2,610	261	1,741	174	4,351	435
Total and averages for the 4 colonies benefitting by the two schemes	132	41,870	317	....	....	....	....	....	....
Totals and averages for 6 colonies benefitting by Direct Relief	149	....	....	....	....	20,349	137	....	....
Total and averages for all colonies	196	....	....	40,418	206	....	....	102,637	524

Quebec Diocesan Colonization Society, which had sponsored the establishment of settlers in that colony, furnished them with a carload of foodstuffs given by the people of the Quebec Dioceses. On November 5, 1934, the Provincial Government made a $5,000 grant for road construction and the Department of Colonization promised to pay all food bills until April, 1935. On November 22, 1934, the Provincial Government gave $4,000 to help the settlers and since December of the same year, the settlers have benefited by the Vautrin Colonization Scheme.

The fact that families established during the last seven or eight years have had to obtain direct relief from the Government would suggest one of two things. Either the sums of money given to the settlers under the various schemes were not sufficient or the Government aimed at preventing a wastage of funds by giving additional financial help only to those families really in need of it.

In six of the colonies visited, direct relief had to be given. It amounted to an average of $136.57 per family during the five-year period 1933-37. It was as high at $239.03 per family in Montbeillard and $150.95 in Ste. Gertrude. The relatively high expenditure for relief purposes may be explained in part by the fact that the settlers in these two colonies were people who had been on relief rolls in the cities before they decided to become settlers. In Moffette, an average of $174.10 per family was given by the Government for relief purposes. It will be remembered that none of the families visited in Moffette had benefited by the Gordon or the Vautrin Land Settlement Schemes. An average of $206 per family was earned as premiums for clearing and ploughing the land in all colonies visited. As was to be expected, relatively more money was earned in such a way in the newer colonies. The relatively large amount of money earned as premiums is a tribute to the hard work of the settlers.

As an average, the Montbeillard settlers received more financial assistance from Government sources than settlers in other colonies. For the 35 families visited, it amounted to an average of $1,041.92 per family. In Ste. Gertrude, the average for the 43 families visited was $867.97 per family. It was much lower in most of the other colonies.

Labour off the farm in the newly established colonies consists mainly of work done on the roads and in the older colonies it is chiefly carpenter's work, or work in the lumber camps and specialized work such as teaching which is sometimes undertaken by one or two members of the family. For the nine colonies visited, labour on roads brought in an average annual income of $51.02 and other labour off the farm brought in an average annual income of $23.49 during the five-year period of 1933-37.

Sales of wood brought in an appreciable income in some colonies but in others it was a rather negligible factor. For the nine colonies, the annual average per lot during the 1933-37 period was $51.64. In La Sarre it ran as high as $122.14 while in Macamic it was $2.50 and in Moffette $4.60.

Table 2.—Average Revenue per Farm per Year Derived from Labour off Farm and Sales of Wood on 196 Farms in Certain Colonization Districts of Northwestern Quebec, five-year period, 1933–37

Locality	Number of records	Labour off Farm		Sales of wood
		On roads	Other	
		$ cts.	$ cts.	$ cts.
Ste. Gertrude	43	69 25	22 57	71 25
St. Felix	29	42 50	4 03	103 71
La Sarre	11	14 29	27 00	122 14
Palmerolle	7	2 86	23 71	86 35
Roquemaure	25	49 32	8 36	36 72
Macamic	28	5 33	5 64	2 50
Montbeillard	35	93 44	30 12	18 90
Fugereville	8	49 68	100 75	50 25
Moffette	10	56 24	82 74	4 60
Total and averages	196	51 02	23 49	51 64

Table 3.—Average Value of Farm Products Sold by 196 Settlers in Certain Colonization Districts of Northwestern Quebec 1936–37

Locality	Number of records	Butter	Live stock	Hay	Miscellaneous	Total	
		Average value	Average value	Average value	Average value	Total value	Average value
		$ cts.	$ cts.	$ cts.	$ cts.	$ cts.	$ cts.
Ste. Gertrude	43	6 70	34 50	....	0 24	1,781 95	41 44
St. Felix	29	30 66	....	1 03	13 07	1,298 00	44 76
La Sarre	11	121 64	....	70 00	10 70	2,225 75	202 34
Parmarolle	7	150 00	87 00	30 00	5 36	1,906 50	272 36
Roquemaure	25	....	4 40	....	....	110 00	4 40
Macamic	28	105 87	58 16	42 32	4 64	6,119 50	21 86
Montbeillard	35	....	15 29	3 80	3 71	666 50	19 04
Fugereville	8	173 37	86 40	80 00	23 16	2,903 45	362 93
Moffette	10	15 20	34 40	5 00	8 50	630 00	63 00
Totals and averages	196	42 24	26 89	26 88	5 48	17,641 65	90 01

The farm products that brought in the largest annual income were butter, live stock and hay. Sales, however, did not amount to a great deal in the newer colonies and in some districts very little was available for sale. None of the settlers visited was specializing, or proposed to specialize in the production of particular farm products in order to supply nearby city markets.

SOME FARM MANAGEMENT FACTORS AFFECTING LABOUR EARNINGS ON ONTARIO DAIRY FARMS

H. R. Hare

As part of a larger study, an examination of 242 business records of farms from which milk was sold to condensery, cheese or cream markets was made to determine the effect of size of farm based on crop acreage. The findings are presented in table 1 and indicate a definite tendency for the farms having a greater crop area to yield the greater operator earnings. The smallest size group provided average operator earnings of $422 per farm as compared with $710 on the group of farms of largest size. The two intermediate size groups show very similar operator earnings at $431 and $428. Though size of farm appears to be a factor which influences the operator earnings, it should be stated that comparatively high operator earnings were secured by individual dairymen in each of the size groups. The larger farm businesses provide the greater possibility of losses or profits, depending upon the crop season, farm prices and the management applied. While on the average the larger farms yield the greater labour earnings it appears that volume of business developed on the acreage operated is the factor of supreme importance.

Table No. 1.—The Relation of Size of Farm to Labour Earnings Based on Crop Acres—242 Condensery, Cheese Factory and Cream Separator Farms in Ontario

Crop Acres	Number of farms	Labour earnings
		$
Under 70	66	422
71–100	105	431
101–130	46	428
131 and over	25	710

Size of Herd.—The 242 business records of farms from which milk was shipped to manufacture milk-markets show when analysed on the basis of the number of cows in the herd that the farms having larger herds provided greater operator earnings than farm businesses based on small herds of cows. The farms having 10 cows or less yielded average operator earnings of $375 while the herds of 20 cows or over yielded operator earnings of $614. The intermediate size groups yielded intermediate operator earnings.

Table No. 2.—Relation of Size of Milking Herd to Labour Earnings—242 Condensery, Cheese Factory and Cream Shipper Farms in Ontario

Number of cows	Number of farms	Labour earnings
		$
Under 10	31	375
10 to 15	89	408
15 to 20	67	430
20 and over	55	614

Milk Sales Per Cow.—An analysis of the records of the farms from which milk was shipped for manufacture shows that milk sales per cow is a highly important factor in successful dairying. Those farms where the average milk sales per cow were below 6,000 lbs. per year provided operator earnings of $317 as an average. Those farms from which about 9,000 lbs. of milk were sold per cow yielded operator earnings of $970. The operator earnings rise progressively as the milk sales per cow become greater.

TABLE No. 3.—The Relation of Milk Sales per Cow to Labour Earnings—242 Condensery, Cheese Factory, and Cream Shipper Farms in Ontario

Annual milk sales per cow	Number of farms	Labour earnings
lbs.		$
Under 6,000	108	317
6,001 to 7,500	75	417
7,501 to 9,000	42	680
9,001 and over	17	970

Crop Index.—The crop index is a measure of crop yields, 100 being representative of an average crop. Table 4 shows that as the crop index becomes greater so also the operator earnings increase. The acreage at the disposal of the farm operator is useful in so far as it provides an abundance of produce for either feeding or sale. The farms which had a crop index below 80 yielded labour earnings of $234 as compared with $750 where the crop index was above 120.

TABLE 4.—The Relation of Crop Index to Labour Earnings and Milk Cost—242 Condensery, Cheese Factory and Cream Shipper Farms in Ontario

Crop Index	Number of farms	Labour earnings
		$
Up to 80	50	234
81–100	61	338
101–120	71	468
121 and over	60	750

These tables present findings relative to a few of the farm management factors which have affected the dairy farm operator's net income for good or ill. The factors which appear to be of greatest importance are size of farm, size of herd, milk sales per cow and crop yields. To a large extent such factors come within the farm operator's control. The dairy farmer who gives careful consideration to these factors in his management plan and adjusts his business in such a way as to capitalize on the findings, will be rewarded by more encouraging operator earnings from his business.

Farm Planning.—Every farmer operates his business on the basis of a plan. During the past few decades farming has been gradually changing from a self-sufficing to a commercial agriculture which necessitates the introduction of farm planning on a commercial basis. Successful commercial farming demands more details in the farm plan to the point that for most farm operators the old mental plan needs to be superseded by a carefully thought out written plan. The difference between income and outgo determines the success or failure of any business. In that income is made up of volume of product multiplied by price, with the latter factor beyond the control of the individual farm operator, his business revenue can be definitely planned only in so far as he can control volume. The price of the commodities which the farmer has to buy also affects his outgo, but to a smaller extent as his farm expenses should be and generally are less than his farm receipts. Experience in farming, however, will be found invaluable in forecasting and planning income or expense.

FARM COSTS AND RETURNS IN NEW YORK STATE

In extension bulletin number 395, October, 1938, the New York State College of Agriculture at Cornell University, Ithaca, presents the findings for 1937, of a cost-accounting study of 82 New York State farms. This method of farm survey was started by the College as long ago as 1914 and as the work has been continuous, data is available for a period of twenty-four years. With the exception of a couple of tables summarizing labour income and returns per hour of labour, the present bulletin is descriptive of farm costs and returns for 1937. It is prepared and written by Paul S. Williamson of Cornell University.

In 1937 the average labour income for the 82 farms was $365 compared with $688 for the twenty-four year period 1914 to 1937. The most profitable year during the period was 1936 when the average labour income was $2,114 while the figures for 1925 and 1916 to 1919 inclusive were nearly as high. The extreme low points were reached during 1931 and 1932, with average labour incomes of minus $1,695 and minus $1,464, respectively.

Labour.—During 1937 a total of 904,824 hours of farm work was done on the 82 farms at an average cost of 31 cents an hour. The cost on the medium sized farms as a group was one cent above this average and that on the smaller sized farms, one cent below average.

Horses and Tractors. On the 82 farms, both horses and tractors were used on 58 farms, tractors only on 8 farms, and horses only on 16 farms. On 13 farms, two tractors were used and one farm provided work for three. The cost of an hour of horse work depends largely upon the hours worked during the year. The one-third of the farms working their horses the least found the average cost to be 25 cents per hour, or ten cents more than those who worked horses the most. Horses worked an average of 716 hours annually per horse, ranging from 266 to 1,541. The cost per hour was 18·6 cents and ranged from 6 to 55 cents.

Accounts were kept of 80 tractors; they were used an average of 436 hours during the year, making the average cost 51 cents per hour. The average cost of maintaining a tractor for a year was $221, fuel absorbing one-third of this and interest and depreciation another third. As with horses, the most important factors affecting cost per hour of tractors is the number of hours of use. One co-operator who used his 110-20 tractor (the most popular type) 1,082 hours had a cost per hour of 25 cents, while the cost per hour on a smaller tractor used for only 31 hours was 97 cents.

Motor Trucks.—Motor trucks were used on 66 of the 82 farms. Two trucks were used on 15 farms and three trucks on one farm. Accounts were kept of 78 trucks. The lowest cost was $80 for a 1½ ton truck used only 626 miles during the year, while the highest cost was for a truck of similar tonnage driven 17,000 miles. Cost per mile of trucks driven 5,000 miles or more was 4·9 cents, as compared with 6·7 cents for trucks driven less than 5,000 miles.

Live Stock.—Dairy cows were a major enterprise on more than two-thirds of the cost-account farms. The largest herd was 74 cows and the smallest 8 cows, while more than half of the 82 farms had between 15 and 30 cows. Feed requirements averaged 7·5 tons per cow; 1·2 tons of grain, 2·4 tons of hay, and 3·9 tons of silage. Feed represents about one-half of the cost of producing milk and labour about one-fifth. Labour was used most efficiently on the larger dairy farms and averaged 23 minutes daily per cow. About one-third of the co-operators had comparatively large dairy farms and on these the hours spent per cow averaged 132 annually as contrasted with 166 hours on the small farms. The saving in time was due partly to the use of milking machines and other labour-saving apparatus commonly found on large farms. Milk production, which was about 50 per cent above the state average, averaged 8,205 pounds per cow and ranged from 5,100 to 11,600 pounds per cow. The average test was 3·66 per cent butter fat, making an average production of 300 pounds of fat per cow.

Poultry.—About 2,100 chicks were started on the average on the 46 farms raising pullets and about one-half of the farms had from 50 to 2,000. From the time they were put in the brooder until they died, were sold or were transferred to the laying flock, it required 1,177 pounds of feed for each flock of 100 chicks. Labour requirements averaged 24 hours per 100 chicks. The average mortality was 26·2 per cent and ranged from 6 per cent to 57 per cent.

Hens averaged 720 birds per farm and over half of the 82 farmers had commercial flocks ranging in number from 118 to 2,829. Feed costs during the year were $2 per bird, the average consumption being 86 pounds of feed, or 6·9 pounds per dozen eggs produced. About one-half of the feed was in the form of mash and one-half was grain. Labour costs were one-sixth of the total average annual cost of $3.65 per bird. Allowing a credit for manure the cost of production of a dozen eggs was 29 cents. An average of 1·9 hours per bird was spent in feeding, cleaning, gathering and packing eggs, and otherwise caring for the poultry flock, and the range was from 0·7 to 3·8 hours. Small flocks used 20 per cent more labour per 100 birds than did large flocks.

Mortality ranged from 4 to 61 per cent and tended to be somewhat higher in the large flocks. The average mortality was 30 per cent. Disease control is one of the major problems confronting poultrymen. Egg production which was the same in both large and small flocks, averaged 12½ dozen eggs per hen with a range of from 95 to 210 eggs.

The demand for agricultural products in the United States is expected to be somewhat more favourable in 1939 than in 1938 according to the Agricultural Outlook published by the Bureau of Agricultural Economics, Washington, D.C. It is expected that there will be considerable improvement in domestic conditions but foreign prospects are not so favourable. The improvement, however, will probably not be so pronounced as in some recovery periods because of large actual and prospective supplies of certain farm products.

The pig crop in the United States in 1938 is about 12 per cent higher than in 1937. It is expected that there will be a further increase in the number of hogs raised in 1939. A limiting factor in the increase in the pig crop next year is the short corn crop in Nebraska, Kansas and South Dakota.

The Marketing Service and the Experimental Farm Service of the Dominion Department of Agriculture will co-operate in making an economic survey of the cattle ranching industry in Western Canada. The study is planned as a three-year project and will be commenced immediately.

SEASONAL VARIATION IN PRICES OF SOME AGRICULTURAL PRODUCTS

Ian McArthur

The price of farm products is governed largely by the supply of and demand for particular commodities at any given time. While demand may remain relatively stable over a period of time, the supply which comes on the market is usually subject to wide fluctuations throughout the course of a year. One of the most important factors governing the flow of farm commodities to the market is weather conditions. The regular changes which take place between the seasons of the year are reflected in agricultural marketings. In the spring of the year the change from winter to summer conditions has a marked effect on the production of dairy products and eggs. Similarly the spring and fall farrowing of sows leads to heavier runs on the market six months later. In the case of field crops, the harvest in the fall causes pressure on the markets at that time.

The seasonal movements of individual agricultural products are not all similar, but by analysing the price movements of individual commodities over a period of years it is possible to determine what appears to be the normal seasonal variations in price resultant from variations in marketings. While a number of agricultural prices have been studied in this manner and the results published, no recent work appears to have been published on the seasonal movement in the price of eggs, butter, potatoes and apples. These commodities will be dealt with in this article.

Eggs.—The price of fresh eggs varies widely over the course of a year, but movement of prices tends to follow a similar pattern from year to year. Egg prices tend to reach a peak in the month of November and after a slight decline in December fall more rapidly in January. In February the colder weather tends to curtail production somewhat and prices are strengthened, but the decline through March and April is rapid. Prices of eggs continue low through May and June, but commence a gradual rise in these months which continues until the high in November. The rate of rise is much more rapid in September and October when the older hens are slackening in their production and the new pullets are just commencing production. It is of interest to note that in Canada the peak in egg prices came in January and February some years ago, but increased use of hatchery chicks and better feeding methods have brought birds into production several weeks earlier. Also the spread between the high and low points of the year have been narrowed considerably in the past ten years.

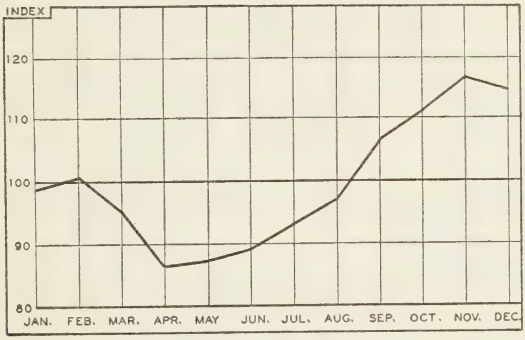

FIGURE 1.—Index of Seasonal Variation of the Price of Fresh Eggs, Toronto 1926-1935.

Butter.—The price of creamery butter over the course of a year also shows a decided variation. Price tends to be high during the winter months of January, February, March and April, with the actual peak coming in March. From April to May, however, there is a very steep decline in butter prices resulting from greatly increased supplies when the cows are moved from winter quarters to grass. This decline continues to the low point in June after which a gradual increase takes place until the end of the year. The price of all dairy products depends on the total milk flow, whether used for fluid milk, creamery production, cheese production or manufactured milk products. The spring decline in butter prices is accentuated by the manufacture into butter of a considerable portion of the surplus of fluid milk which occurs at this time of the year.

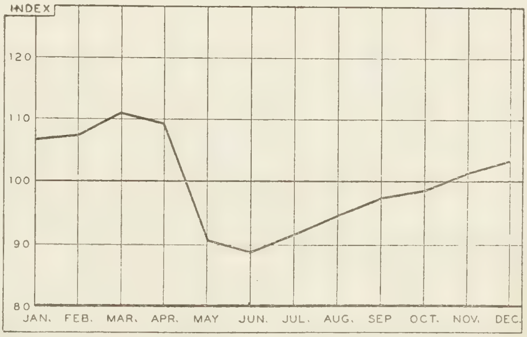

FIGURE 2.—Index of Seasonal Variation of the Price of Creamery Butter No. 1 Prints, Toronto 1926-1935.

Potatoes.—While the late potato crop is harvested at one season of the year, generally October, the price of potatoes over the succeeding seven months appears to follow a fairly well defined pattern, depending on the size of the crop harvested. The difference in the movement as between years of high and low potato production is undoubtedly due to the fact that in years of heavy production the market is immediately subjected to pressure by supplies placed on the market by farmers anxious to sell their crop at any price, while in years of relatively low production, farmers anticipating higher prices, withhold supplies from the market until prices rise to a point satisfactory to them. Because of this difference in the movement of potato prices dependent on the size of the crop, it is necessary to calculate two separate seasonal trends for potato prices. It will be noted that in the case of a small crop, prices rise rapidly from October to November and continue to rise until a first peak is reached in January. There is then a tendency for prices to decline somewhat in February and March, but to rise during April to a second peak in May. This later rise is probably influenced by the demand for seed at that time. In the case of a large crop, prices appear to be discounted early in the season. There is a gradual decline until December, followed by a slight rising tendency lasting until March, which is again followed by falling prices until the end of the marketing season in May. During the period from May to October the Canadian market is supplied by either imported potatoes or early varieties produced in Canada.

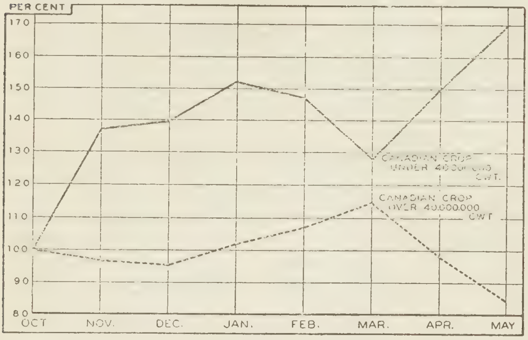

FIGURE 3.—Seasonal Trends in New Brunswick Farm Price of Potatoes Showing the Difference in Years of Relatively Large or Small Crop, 1930-1938.

Apples.—The Canadian apple crop is marketed during the winter months with the main marketing season running from September to the following March. As in the case of potatoes, the seasonal movement of the farm price of apples changes with the relative size of the individual crops. While in all years there has been a general tendency for the farm price of apples to rise throughout the marketing period, the rise is more rapid in years of below average production. In the case of relatively short crops the rise in farm prices is continuous at a fairly steady rate until the peak is reached in March. At that time prices average approximately 150 per cent of the September price. In years of above average production the rise is not as rapid and does not become evident until November. The March prices averaged 135·6 per cent of the September price in these years. The September price averaged 19 cents a bushel, or 26 per cent higher for the years of below average production.

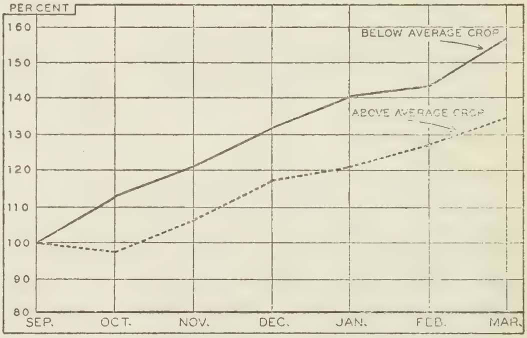

FIGURE 4.—Seasonal Trends in Ontario Farm Price of Apples Showing the Difference in Years of Above and Below Average Crop, 1930-1938.

ECONOMIC LITERATURE

CONSUMERS AND THE MARKET.—Reid, Margaret Gilpin. New York, F. S. Crofts & Co., 1938, 584 pages. Study outline, bibliography, questions and index, pages 551-584.

"Consumers and the Market" is an analysis of the market from the point of view of the consumer. The characteristics of a market which shall satisfy consumers' needs are stated; the present market is criticized as to how far it possesses these characteristics, and recommendations for the improvement of the market are made.

As the book is an outgrowth of a course of lectures to students, it is well organized and the problems and arguments are clearly stated. An excellent outline and questions for study are given. The logical presentation, simplicity of expression, and unbiased point of view make it a very good basis of study for adult consumers who have not necessarily had much academic training in marketing problems. Since American and Canadian standards of living and marketing organizations are very similar, the discussion of the American market applies with almost equal force to Canada. Although considerable space is devoted to American laws affecting financing, standardization, and commerce, it is primarily for the purpose of evaluating the acts, and the Canadian reader may well be interested in such criticism. A knowledge of Canadian legislation relating to consumers is also shown.

In the approach to the problem, the fundamental fact that effective demand depends upon income is noted, and classifications of American families according to income are given. The problems of efficient buying which face the consumer are considered. The criteria of a good market are stated to be, the provision of commodities, variety of choice, protection from the sale of harmful products, information about the availability of products and their relative merits, absence of pressure to buy, optional services, efficiency and lack of waste, and fair prices.

In Part II, market organization and functions are discussed. Present markets are characterized by a great deal of freedom of enterprise, a great deal of combination among competing groups, the profit motive of the seller, and regulation by the state. The functions of the market which are said to be exchange, giving of information, supply of goods, and the activities necessary in connection with these, are evaluated. The channels of distribution are described and the question of too many middlemen is discussed, as well as inefficiency and waste in other parts of the distributing system.

The subject of Part III is concerned with retailing. The relative efficiency of large and small scale retailers is discussed and the advantages and disadvantages of, and the trends in different types of retailing, such as house-to-house selling, public, roadside and super markets, the general store, mail order and department stores.

Two chapters are devoted to the consideration of chain stores. It is found that chain stores benefit the consumer since their large scale organization enables them to lower prices for some commodities. The author feels, however, that there has been insufficient research to justify conclusive statements regarding price comparisons between chain and independent stores. The chapter dealing with social policy and the chain stores discusses the alleged destruction of commodity values and unethical practices by chains, the danger of their becoming monopolies, and the reasons for and results of anti-chain legislation and taxes.

Consumer co-operatives are also discussed as to their power to increase the efficiency of the market, co-operative principles, their history in Europe and the United States, recent development and future in the United States, the place of consumer co-operatives in the economic system, and the requirements for their development.

Part IV deals with costs and services in marketing. Although marketing costs have increased greatly in recent decades, it is pointed out that the consumer must not condemn them as too high unless the functions performed in making goods available are inefficiently performed, unnecessary, or, as in some cases, altogether lacking. The cost of certain retailing services which are demanded by some consumers is investigated.

Credit for consumers is thoroughly discussed in its various phases; the cost to the seller, the advantages of instalment buying, types of finance company, agreements, charges for credit, credit regulations and credit unions.

Salesmanship and advertising are appraised in Part V, and are found to be merely a means to greater profit with little of the educational value which is claimed for them. Advertising is in general costly and wasteful. Various methods are suggested for controlling advertising with a view to eliminating fraud and the sale of harmful goods, reducing nuisances and lessening waste.

Part VI deals with the necessity of standardization of products so that the consumer may recognize quality and determine what products fulfil his requirements. The public cannot rely upon price as an index of quality, brands often do not guarantee quality, and retailers and salespeople are not adequately informed. Informative labelling and standardization are strongly recommended The consumers' problem in recognizing quality is also considered.

In Part VII, the important question of price is discussed. Real and unwarranted reasons for price differences are stated. The effect of competition and the lack of it upon price setting by retailers, wholesalers and manufacturers is shown. The case for and against retail price maintenance is given.

The improvements in the market which are urged as a result of the investigation involve no radical changes, but are to be attained by adjustments of the present methods of marketing. Recommendations to be implemented by the state are, compulsory informative labelling and standardization, more stringent legal restrictions upon fraudulent advertising and sale of harmful products, regulation of the credit system so that the debtor may be aware of the interest and other charges he pays, checking of monopolies and agreements preventing free competition, and the dissemination of knowledge as to conditions affecting the market. The author stresses the importance of research undertaken publicly or privately in the interests of consumers. Finally, education of the consumer is imperative so that he may choose his goods and his market wisely, and consciously co-operate in making the market most efficient.

The Farm Economics Branch of the Department of Agriculture for Scotland reports that most of the farmer's costs in Scotland and also his returns rose in 1937 compared with 1936. Rents apparently changed little. Rents are commonly supposed to be one of the farmer's expenditures which change slowly because of the prevalence of long leases in Scotland. This tendency has not been so marked in recent years, for the system of tacit re-location or lease of one or two years has become more widely used, possibly because of the insecurity of the farmer's position since 1932. The commonest length of leases based upon an analysis of 820 holdings were for periods of between 10 and 12 years and 691 holdings come within this group.

The following bulletins are now available on request to the Publicity and Extension Division of the Dominion Department of Agriculture, Ottawa:—

Physical and Economic Factors Related to Land Use Classification in Southwestern Central Saskatchewan. Bulletin No. 609.

An Economic Study of Land Utilization in Southern Alberta. Bulletin No. 610.

Cost and Returns in Apple Production, Rouville County, Quebec. Bulletin No. 624.

OTTAWA: Printed by J. O. PATENAUDE, I.S.O., Printer to the King's Most Excellent Majesty, 1938.

The
ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE ECONOMICS DIVISION
MARKETING SERVICE
DEPARTMENT OF AGRICULTURE
OTTAWA

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Minister of Agriculture

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ECONOMIC SITUATION

International Trade Conditions 1938.—The decline in the volume of world trade, which became apparent in the fall of 1937, continued during the first six months of 1938. This resulted in an accumulation of world stocks of foodstuffs and raw materials and an accompanying decline in the wholesale prices of primary products. Further, it tended to stimulate in many countries the use of quotas, exchange controls and clearing agreements—methods restrictive to world trade, which had shown some signs of being at least partially relaxed during 1937. Some improvement developed in the second half of the year and the decline in world prices appeared to have been checked. At the close of the year a further hindrance to world trade was caused by unsettled international exchange rates. The lower prices of foodstuffs and raw materials, in relation to manufactured goods, was another factor which increased the difficulties of international trading during 1938.

United States.—The decline in industrial activity which marked the last quarter of 1937, was halted during the summer of 1938 and continued improvement was made throughout the rest of the year. There was also a marked pickup in building activity. As was mentioned in the previous issue of *The Economic Annalist* the rise in industrial production has been more or less restricted to automobiles, textiles, and other consumer goods, and materials used in their manufacture. The general improvement has not yet been reflected in any large expansion in the demand for other capital goods and it is not considered that any great stimulus to general business conditions from this source may be expected until well into the present year. It would appear that inventories for the manufacture of consumer goods have been fairly well built up from the low levels reaching during the recession, and with no great inducement for forward buying there may be a temporary halt in industrial activity. The general outlook however would appear to be for some additional improvement in consumer purchasing power and demand for farm products in the near future, followed by a period of relative stability.

United Kingdom.—Business activity declined in the United Kingdom during the first half of 1938 and the contraction in demand from the United States for British exports had an adverse effect upon some export industries. Some signs of recovery were indicated in the late summer and *The Economist* index of business activity for November reached 104—the level at the end of 1935. Despite seasonal forces, exports rose slightly in November, and the eleven-month total was £432 million compared with £488 million for the corresponding period of 1937.

In December a credit scheme was announced to assist British overseas trade. A fund of from £50 million to £85 million has been provided in credit guarantees, £10 million of which may be used for the purpose of guaranteeing political loans.

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

Year	Wholesale Prices 1926=100				Retail prices and cost of services (5)	Production (6) 1926=100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·5	57·3	74·0	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·8	112·3	114·4	82·7	141·3
1937....	84·5	84·5	85·7	84·9	83·1	122·8	120·8	49·4	157·3
1938....	78·6	73·6	69·0	81·3	83·3	112·9	114·6	64·9	144·5
1937									
Dec....	82·7	84·2	83·9	84·6	84·3	121·4	125·2	35·5	138·9
1938									
Jan.....	83·8	86·3	88·8	82·2	84·0	111·8	113·5	37·6	135·1
Feb....	83·6	85·1	87·5	81·1	83·9	106·7	107·4	25·7	137·2
Mar....	83·1	83·0	83·8	81·7	84·2	108·8	110·2	29·7	133·4
April...	82·3	82·5	83·2	81·2	84·2	112·4	114·2	38·3	131·9
May....	80·3	77·3	74·6	81·8	84·1	110·7	112·5	41·1	157·8
June....	80·1	76·6	74·3	80·5	84·0	108·4	109·3	20·6	188·3
July....	78·6	71·5	65·9	80·8	84·1	109·1	109·8	40·3	142·7
Aug.....	76·0	64·2	54·9	79·7	84·8	110·5	110·8	89·2	139·2
Sept....	74·5	62·4	51·2	81·1	84·0	119·2	120·7	123·9	135·1
Oct....	74·1	63·8	53·6	81·0	83·8	118·6	121·1	145·6	138·8
Nov....	73·5	64·9	54·6	82·1	83·7	123·4	128·3	101·6	148·3
Dec....	73·3	64·6	53·8	82·8	83·5	115·6	118·1	85·7	146·7

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1936, p. 17.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1936, p. 52, and Monthly Mimeographs 1937-39.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.

Prices and Price Indexes 1913-1936, p. 103, and Monthly Mimeographs, 1937-1939.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

Yearly index numbers for 1938, subject to revision.

Canada.—The closing months of the year showed a definite improvement in economic conditions. Industrial production indexes rose for all the main classification groups, and although the physical volume of business index averaged about 8 per cent less than in 1937, the outlook was appreciably brightened by the recovery of the last four months of 1938. The decline in commodity prices however, has persisted since July 1937 and certain primary producers, and particularly the agricultural producers are at a disadvantage owing to the differences in wholesale prices between commodity groups. Since early in September the decline in wholesale prices has been practically halted and fluctuations in the general average since that date have been of less significance.

In general, world trade is hampered at the present time by international political difficulties and improvement is conditional upon what the future may bring by way of settlement. A more definite guarantee of international security seems to be a prerequisite to any lasting improvement in world conditions.

Canadian wholesale commodity prices were comparatively stable during both November and December and the Dominion Bureau of Statistics index moved within narrow limits. The index of prices of Canadian farm products made some advance over the October index, animal products holding their gain better than field products.

The changed wheat supply situation has brought drastic declines in wheat prices as compared with those of a year ago. The total Canadian crop is placed at 348,000,000 bushels, a large increase over the 1937 figure of 182,410,000 bushels. Conditions in the grain areas of Argentina showed improvement during December and the wheat crop of that country is officially estimated at 316 million bushels. During November the price of No. 1 Manitoba Northern cash wheat at Fort William averaged 59·0 cents a bushel and the average price for December was 60·6 cents a bushel. The 1937 November average price was 134·6 cents a bushel, and the December figure 137·4 cents a bushel.

Live stock prices were generally higher during November and further advances were made in December. Hog prices eased somewhat during mid-November, but higher British bacon prices during December stimulated demand for Canadian hogs and steadily rising prices netted gain of from 62 cents at Winnipeg to $1.62 per cwt. in Toronto. Egg and butter prices averaged somewhat lower in December.

Business activity during December did not continue on such a high level as during November and the index of physical volume declined nearly 8 points to 115·6. The decline extended to almost all classes of industry, though the textile group recorded an advance and the forestry industry nearly maintained the level reached in November. The seasonal decline in the construction industry was less than usual and the adjusted index of trade employment advanced from 132·5 to 137·0.

The Cost of Living Index declined fractionally during November and December.

LAND UTILIZATION RESEARCH IN ALBERTA

W. D. Porter

Classifications of the earth's crust and surface, based upon the mineral bearing qualities of the parent rock, the type of soil, and so forth, have been carried on for many years and for many purposes. These classifications may be divided broadly as to objectives into two groups; those dealing with non-agricultural pursuits such as geological surveys and the like, and those projects associated with the description of agricultural resources. Into the former group fall such enterprises as the location and classification of areas of mineral wealth and the search for new scenic or health resort areas. Within the field of agricultural classification fall such projects as the soils surveys, surveys to determine the extent of irrigable lands, and land utilization surveys. The last have as their general objective the provision of a fund of knowledge which may be of assistance in determining what agricultural practices are likely to be most efficient in providing "maximum" satisfaction for an "optimum" population within any particular area.

In earlier times such classifications were wont to be met pretty much by the trial and error method. Just as the gold seeker of early days had little more than his pick and shovel, along with his native intuition, to guide him in his search for gold-bearing ore, so the settlement of new agricultural lands proceeded in an uncontrolled, hit-or-miss fashion—ultimately bringing loss to the nation as well as to the individuals involved.

To-day, the modern gold-seeker has the use of delicate scientific devices, which, along with the aeroplane, make it possible for him to speed up greatly the discovery and classification of existing ore beds. He is in a position to make a controlled, fact-finding survey. In accordance with advances in such fields as geology and mineralogy, the attempt is now being made to introduce controlled techniques of a more or less parallel nature into the classification of agricultural lands. Progress has been rather slow but recent wide-spread drought and the consequent hardship endured by the people, has focussed attention on the great need for the provision of a more reliable guide to land use than has previously been available.

Alberta Surveys.—In the past four years land utilization surveys have been carried on in Alberta and Saskatchewan under the direction of the Economics Division, Marketing Service, Dominion Department of Agriculture.[1] In Alberta the surveys of the last three years have been confined to the Special Municipal Areas,[2] and in these surveys major emphasis has been placed upon land classification. It is expected the final classification, on a quarter section basis, of the approximately eight million acres within the six areas, will be finished early in the summer of 1939.

The Technique of Land Classification.—The technique of classification developed in these surveys may be divided broadly into three steps.

The first step consists in the calculation of a productivity rating for each quarter section in terms of the number of bushels of marketable wheat which on the average, each quarter may be expected to produce from year to year. This rating is based primarily, upon the physical factors of cultivable acreage[3] and long term (1921-36) average wheat yields,[4] these yields being tabulated on a basis of soil type.[5] In arriving at the final rating a deduction of 1½ bushels per acre, to allow for seed and waste, is made from the sixteen year gross average yield.

The use of historical data as a basis of classification necessarily involves the assumption that subsequent years will bring forth yields comparable to those obtained in the past. This in turn requires similar assumptions with regard to such factors as climatic conditions, soil fertility and the advancement of technical and scientific agricultural knowledge.

The second stage in the technique is the transition from a purely physical classification to one which takes into account financial and economic considerations, along with the physical elements, and at the same time permits the establishment of more or less distinct land classes. This transition is accomplished by the selection of certain class limits within the entire range of the net revenue which may be derived from the use of parcels of land of varying productive capacity. The determination of the actual net income groups used in describing various land classes involves the use of certain assumptions and data regarding standards of living, costs, prices, and the like.

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[1] The Universities of Alberta and Saskatchewan have co-operated in the carrying out of these studies. Funds have been supplied largely under the Prairie Farm Rehabilitation Act.

[2] These six Special Areas are consolidations of smaller Municipal units and were set up by the provincial government for administrative convenience in that part of Southern Alberta most seriously stricken by drought. These six special areas are known as the Tilley East, Sounding Creek, Neutral Hills, Berry Creek, Sullivan Lake and Bow West Special Municipal Areas.

[3] Data obtained from aerial photographs. It was estimated that 45 per cent of the total cultivable acreage per quarter would be seeded annually to wheat, this percentage estimate being derived from Dominion Census data.

[4] For a discussion of the method of collection, sources and nature of the wheat yield data used in these surveys the reader is referred to an article entitled "A Study of Wheat Yields in South Central Saskatchewan" by G. C. Elliott in *The Economic Annalist* for June, 1938.

[5] Data obtained from soil surveys.

Net income is defined as the balance of receipts over certain essential expenses of production; namely, cash operating expenses and depreciation on buildings and equipment. It represents the cash revenue available for family living where no payment is made for interest on capital, including borrowed capital, invested by the farmer in his farm and equipment. It is exclusive of real income obtained from the farm in the form of house rent and farm produce consumed by the farm family. In deriving a classification in terms of net income, a budget is constructed for a wheat farm of representative size in order to determine the effect on net income of the use of parcels of land of varying productivity. In this budget allowances are made for the prices of farm products sold—receipts; for the quantities and prices of goods and services required for production—expenses, and for receipts from outside sources.

Having established this budget of probable receipts and expenses it is necessary to set up the various ranges of net income which are used in determining the land classes. The critical point in the classification occurs when a level of net income is reached at which the operator is just in doubt as to whether or not it will be "profitable" for him to continue operating his farm. This critical point may be termed the "margin," and, assuming the operator to have full knowledge of alternative opportunities, he would give up operating his present unit as soon as his net income fell below this point. In the Alberta study this critical point or margin was set at a net income of $585 for a three quarter section farm of 480 acres, this figure being equivalent to a hired man's average annual wage over the period 1931-35. On a quarter unit basis this figure would be $195 per quarter section. Making allowance for receipts from all other sources it was calculated that the sale of 375 bushels of wheat per quarter section (at the estimated long-term average price) would be needed to produce this revenue. Any parcels falling below this level of productivity were termed non-arable or Class I land. Allowing a fairly wide range of net income to each (the limits of these ranges being determined by estimates of certain standards of living) three further land classes were set up. Table I indicates the statistical bases for these classes.

TABLE I.—STATISTICAL BASES FOR LAND CLASSIFICATIONS

Land Class	Estimated net income per quarter section	Productivity in bushels per quarter section	Suitable for
	$	bush.	
Class I—Non-arable	0–195	0–374	Grazing.
Class II—Marginal	196–278	375–517	Grazing and wheat.
Class III—Fair wheat land	279–515	518–795	Wheat.
Class IV—Good wheat land	516–689	796–999	Wheat.

A quarter section=160 acres.

The principal elements of estimate involved in this procedure are:—

i Size of farm—a check of the data available showed that a three quarter section farm was reasonably representative of the wheat farming units in these areas.

ii Yield data and wheat prices—the 1921-36 average was used for these data.

iii Costs of goods and services used in production were also based on a 1921-36 average of such costs.

iv Quantities of goods and services were determined from survey data of farm expenses.

v Probable sales of farm products other than wheat. These were estimated from survey data relating to crop acreages, number of live stock and such factors, due provision being made for seed and feed.

The use of these estimates necessitates certain obvious assumptions regarding future trends in farm practices, yields, prices, etc.

The final step consists in a thorough parcel-by-parcel field check of this tentative classification. Here such factors as soil drifting, stoniness, and abandonment can be given due weight. The usual difficulties with regard to the maintenance of uniformity of judgments among enumerators arise at this stage. These disparities in judgment must be minimized by constant checking and rechecking if the final result is to have a uniform basis.

To supplement the classification, supporting evidence is compiled from various sources. Tax arrears and delinquencies are tabulated; relief data are analysed; data on ownership, assessment and tenure are coded and mapped. In addition a rather lengthy schedule is obtained from each farm operator and at the same time all farm buildings are graded and mapped. This supplementary data is useful in interpreting and verifying the land classification as well as in supplying valuable information concerning the economic relationships existing between size of unit, tenure, net income, assets and liabilities, etc.

Applications.—Bearing in mind the assumptions upon which the classification is built it is felt that the technique as at present established may provide a useful gauge for certain purposes. The different land classes ordinarily fall into fairly well defined local areas. The knowledge of the differences between these local areas may prove useful to the administrators and to others in such respects as the following:—

(*a*) The equalization of assessments for taxation purposes as between different areas and to a certain extent within particular areas.

(*b*) The definition of the limits of non-arable land may provide assistance in determining the location of community pastures, game preserves, and similar areas.

(*c*) Areas may be detected in which the population is obviously not adjusted to productive capacity. This knowledge should prove useful in the formulation of rehabilitation policies.

(*d*) Classification of lands over a wide territory should be of assistance to farm appraisers in determining the levels of basic valuations and debt carrying capacities in different areas.

(*e*) The supplementary data provide a fund of knowledge from which much assistance may be derived in determining the most satisfactory type and size of farm and the like for any particular problem area.

The above list is by no means exhaustive. It serves merely to indicate some of the possibilities latent in land utilization studies.

Further Aspects of the Problem.—While a straightforward land classification is possessed of many advantages it does not go very deeply into the solution of problems involving individual units within a particular land class. Once land classification is completed the problem becomes one of farm and community organization. The question "What is the optimum size of farm or of community for each land class or combination of land classes?" must remain in the foreground. If fairly detailed schedules have been taken from farm operators at the time of the field check, it is likely that much information may be brought to bear directly on the more intensified problem of organization within any particular land class or combination of land classes which may be considered as a "problem area." This will be particularly true if the enumeration and classification have been made, from the standpoint of crop and live stock production, in an average or normal year.

Careful analysis of receipts and expenses, assets and liabilities, inventories of live stock, machinery and supplies, financial progress since commencement of operation, on a basis of size of farm or of net worth at start, may point towards the most successful type and size of enterprise.

Along with any information available from the survey itself, further data must be secured to assist in determining the possibilities of any or all of the necessary social services being supplied on a sound financial basis. It should be possible to ascertain for any service, the approximate size of area and minimum population required to make it an efficient and successful venture. With regard to the human resources required for any area or community, certain sociological analyses of the age and sex composition and aptitudes of the population must be made.

While it may often be found necessary to adjust the size of units within a designated "area," and at the same time move out or bring in settlers, it may also be found necessary, during the process of adjusting the population of the "area" to the maximum which can be supported therein at an adequate standard of living, to realign the boundaries of the area to conform to the requirements of any or all the required social services. This mutual process of adjustment should finally provide a certain measure of stability within the area. However, it must be kept in mind that any organization once set up does not remain static. It may be found impossible to plan for more than one generation ahead. Dynamic factors such as changes in the age distribution of the population and possible changes in the methods of production must all be given consideration by the research worker and administrators concerned. The whole process of adjustment can be carried out efficiently only by the closest co-operation among all intersted groups.

SOME ASPECTS OF LAND SETTLEMENT IN NORTHWESTERN QUEBEC, 1936-37

A. Gosselin and G. P. Boucher

A previous article on land settlement in Northwestern Quebec appeared in the issue of *The Economic Annalist* for December, 1938. It dealt mostly with the means of subsistence of the settler in the first years of his establishment and his main sources of income in later years. The present article will discuss the expense side of the settler's business.

Due to an almost complete lack of marketing organization and poor transportation facilities at the time the areas under study were opened to colonization, settlers had to pay relatively high prices for the things they had to buy. Moreover, they had to buy more than a farmer who has been established for some considerable time finds necessary. For, some years must elapse before a settler on new land can develop his farm to the pitch where it will supply him with his entire requirements of feed for his live stock and seed for his crops. During this early period too, he has often to buy much of the food needed for the household; food which in later years the farm will supply, milk, butter, eggs, meat, poultry, and vegetables.

Cost of Transportation.—The first expenditures incurred by the settler were naturally those of transportation from his previous farm or city home to the farm he proposed settling on. Frequently a married man would have, apart from his family, a considerable amount of furniture and other household effects to transport. Again, a settler who was also a farmer would of course wish to ship his farm machinery and implements to his prospective farm in these newly colonized areas.

It has been possible to obtain accurate figures of these costs of transportation for the newer colonies only. There are quite wide variations between the transportation costs incurred by settlers going to the different areas. Two reasons account for this: firstly, the longer rail haul to the local station nearest to the particular colony, and secondly, the variations in distance between the local railway station and the colony. While some colonies are comparatively close to a railway station, others are a considerable distance away. For the colony of Roquemaure the average cost of transportation per farm was $47 while for the two colonies of Montbeillard and Moffette it was $118 and $120, respectively. The average cost for the five colonies for which figures are available was $88 per farm.

TABLE 1.—COST OF TRANSPORTATION TO COLONIZATION DISTRICTS OF THE SETTLER, HIS FAMILY, HOUSEHOLD GOODS AND FARM MACHINERY, ON 142 FARMS IN CERTAIN COLONIZATION DISTRICTS OF NORTH-WESTERN QUEBEC

Locality	Number of records	Average cost per settler
		$
Ste-Gertrude	43	90
St-Félix	29	74
Roquemaure	25	47
Montbeillard	35	118
Moffette	10	120
Totals and average	142	88

These figures on costs of transportation represent what the settlers actually had to pay. In some cases, free railway tickets were given to the settlers by the Quebec Government or special rates were granted by the railway companies. If such special rates had not been available to the settlers, the costs of transportation would certainly have been much higher.

Price Paid for Farms.—In the Abitibi and Temiscamingue counties the townships are usually 10 miles square and they are divided into lots of about 100 acres. Up to 1930, the Quebec Government sold the lots at 60 cents an acre. Since then, the price has been reduced to 30 cents.

TABLE 2.—AVERAGE PRICE PAID FOR FARMS, ON 196 FARMS IN CERTAIN COLONIZATION DISTRICTS OF NORTH-WESTERN QUEBEC

Locality	Number of records	Price per farm	Price per acre
		$	$ cts.
New Colonies—			
Ste-Gertrude	43	57	0 47
St-Félix	29	147	1 09
Roquemaure	25	52	0 50
Montbeillard	35	37	0 33
Moffette	10	61	0 51
Total and averages	142	70	0 59
Old Colonies—			
La Sarre	11	1,090	5 82
Palmarolle	7	1,371	8 01
Macamic	28	1,587	6 45
Fugèreville	8	1,435	8 79
Total and averages	54	1,435	6 77

Those colonies which have been established since 1928 are classified as old colonies. Most of the lots in the new colonies included in this study were sold at 30 cents an acre. In table 2 the price per farm and the price per acre are shown. Not all the farms included in the table had been continuously occupied by the present settler, but had been farmed by a previous occupier who had of course increased somewhat the agricultural value of the land. The figures therefore do not represent the original price paid for the land, but include the enhanced value at the time the present owner made the purchase. Such farms were purchased by the present occupier either direct from the previous settler, or from the Government. The price per farm is more than twice as high in St-Félix than in any of the other new colonies. This is because St-Félix was opened earlier than the other colonies and some of the settlers bought their lots at 60 cents an acre.

The average price paid per acre for the farms in the old colonies included in this study was $6.77. This price covers the cost of land, buildings and improvements at the time of purchase. The land usually cost 60 cents an acre when bought direct from the Government. In many cases, however, it had been bought from another settler together with the buildings and the equipment that were on it, and the land had usually been improved by the previous settler. The price paid for the farms was much higher in the old than in the new colonies, since they were bought at a time when the price of land was generally high.

Farm Investment.—The average investment in farm buildings and fences, household equipment, farm equipment and live stock on the farms visited in the new colonies averaged $922. Of this amount $366 was spent for buildings and fences, $133 for household equipment, $177 for farm equipment and $246 for live stock. The colony of Roquemaure had an average of only $68 worth of equipment per farm. The value of live stock was higher in Moffette than in any of the other new colonies. It averaged $347 as compared with $246 for the five colonies studied. St-Félix had a somewhat higher investment in the four items mentioned than Moffette, but the largest value was for buildings and fences. Of an investment of $1,193 as much as $588 was for buildings and fences. St-Félix has been established somewhat longer than the other colonies in this group and consequently the buildings are more substantial and most of the log buildings have disappeared.

Table 3.—Average Investment in Farm Buildings and Fences, Household Equipment, Farm Equipment and Live Stock on 196 Farms in Certain Colonization Districts of Northwestern Quebec, 1937

Locality	Number of records	Buildings and fences	Household equipment	Farm equipment	Live stock	Total
		$	$	$	$	$
New Colonies—						
Ste-Gertrude	43	326	159	186	272	943
St-Félix	29	588	107	214	284	1,193
Roquemaure	25	293	113	68	176	650
Montbeillard	35	292	127	182	203	804
Moffette	10	333	169	312	347	1,161
Total and averages	142	366	133	177	246	922
Old Colonies—						
La Sarre	11	2,095	245	805	866	4,011
Palmarolle	7	2,287	137	540	675	3,639
Macamic	28	3,130	338	898	1,314	5,680
Fugèreville	8	1,637	204	951	854	3,646
Total and averages	54	2,589	273	840	1,072	4,774

The average investment in buildings and fences, household equipment, farm equipment and live stock in the old colonies was $4,774. Macamic had the largest investment for all items studied except farm equipment. The average value of live stock per farm was $1,314 as compared with an average of $1,072 for the four old colonies. These figures on capital investment do not represent only the cash outlay made by the settlers since their establishment, but include also the actual value of the household equipment, the farm equipment and the live stock they brought with them as well as the natural increase in live stock numbers. This latter cannot be considered as an actual cash outlay but it contributes materially towards an increase in the value of live stock on hand.

Farm Expenditures.—The farm expenditures for the year 1936-37 averaged $123 per farm in the new colonies. In Moffette they averaged only $52 per farm while in Ste-Gertrude and St-Félix they amounted to $167 and $164, respectively. The largest single item of expenditure was feed. This averaged $99 as compared to $9 for seed, $7 for taxes and church contributions and $8 for all other expenditures. The average expenditures for feed were $144 in Ste-Gertrude, $121 in St-Félix and only $17 in Moffette. The cost of feed is usually high in new colonies and the settler has to depend mostly on outside sources for his supply. The Quebec Department of Colonization distributes timothy, grain and potato seeds to the new settlers. This is given free and makes for an appreciable reduction in the settlers' annual expenditures on seeds. The average disbursements for taxes and church contributions amounted to $7.

TABLE 4.—AVERAGE FARM EXPENDITURES ON 196 FARMS IN CERTAIN COLONIZATION DISTRICTS OF NORTH-WESTERN QUEBEC, 1936-37

Locality	Number of records	Seed	Feed	Taxes and church contributions	Miscellaneous	Total
		$	$	$	$	$
New Colonies—						
Ste-Gertrude	43	13	144	1	8	167
St-Félix	29	9	121	22	12	164
Roquemaure	25	3	63	3	6	75
Montbeillard	35	10	73	3	3	90
Moffette	10	10	17	12	13	52
Total and averages	142	9	99	7	8	123
Old Colonies—						
La Sarre	11	24	23	80	27	154
Palmarolle	7	23	123	75	8	230
Macamic	28	91	166	96	137	489
Fugèreville	8	30	70	81	127	309
Total and averages	54	59	117	88	96	360

In the old colonies the farm expenditures for 1936-37 averaged $360. An average of $117 was spent for feed, $88 for taxes and church contributions, $59 for seed and $96 for various other items such as horseshoeing, fertilizer, spray materials, etc.

Living Expenses.—In table 5 are shown the details of cash family expenses for "new" and "old" colonies. These expenses averaged $293 per family in the "new" colonies and $343 in the "old" colonies. Cash disbursements for food per family were higher in the new colonies than in the old, but cash disbursements for clothing, health and various other items were much higher in the old colonies than in the new ones. However, it must be noted that although the average rate of expenditure for food is high, it is lower in some new colonies than in some old ones. The high expenditure for that item in Ste-Gertrude is responsible for the high average for all new colonies. Compared to an average of $162 for food per family in the old colonies and an average of $189 per family in the new colonies, Ste-Gertrude had an average cash expenditure of $245.

TABLE 5.—AVERAGE LIVING EXPENSES OF 196 FAMILIES IN CERTAIN COLONIZATION DISTRICTS OF NORTHWESTERN QUEBEC, 1936–37

Locality	Number of records	Average number of persons per family			Food	Clothing	Health	Miscellaneous	Total
		Adults	Children	Total	Average value per year	Average value per year	Average value per year	Average value per year	Average value per year
		No.	No.	No.	$	$	$	$	$
New Colonies—									
Ste-Gertrude	43	2·9	3·8	6·7	245	88	27	6	366
St-Félix	29	2·6	3·2	5·8	156	75	20	9	260
Roquemaure	25	2·2	2·8	5·0	175	83	4	5	267
Montbeillard	35	3·2	2·8	6·0	167	80	4	12	263
Moffette	10	2·8	5·7	8·5	160	66	6	9	241
Total and averages	142	2·8	3·4	6·2	189	81	14	8	293
Old Colonies—									
La Sarre	11	4·2	2·8	7·0	168	140	31	19	358
Palmarolle	7	4·0	3·1	7·1	161	122	75	9	367
Macamic	28	3·3	3·2	6·5	163	130	30	19	342
Fugèreville	8	3·6	3·3	6·9	151	103	39	15	308
Total and averages	54	3·6	3·1	6·7	162	127	37	17	343

Financial Obligations.—The average debt per farm was $148 in the new colonies and $524 in the old ones. Of the 142 farmers visited in the new colonies 114 reported debts averaging $184 and of the 54 farmers visited in the old colonies 37 reported debts averaging $764. In the colony of Roquemaure, only 14 of the 25 farmers visited reported debts. The average debts for these 14 farmers amounted to $91 and the average for all 25 farmers amounted to $51 only. The average financial obligations were much higher than this in any of the other new colonies.

TABLE 6.—FINANCIAL OBLIGATIONS ON 196 FARMS IN CERTAIN COLONIZATION DISTRICTS OF NORTHWESTERN QUEBEC, 1937

Locality	Number of records	Average debt per farm	Number of farms reporting debts	Average debt per farm
		$		$
New Colonies—				
Ste-Gertrude	43	166	35	203
St-Félix	29	160	25	185
Roquemaure	25	51	14	91
Montbeillard	35	122	30	142
Moffette	10	369	10	369
Total and averages	142	148	114	184
Old Colonies—				
La Sarre	11	454	8	625
Palmarolle	7	241	6	281
Macamic	28	549	16	960
Fugèreville	8	779	7	891
Total and averages	54	524	37	764

The 10 farmers visited in Moffette all reported debts. The average debt per farmer was $369 which is much higher than the average per farmer for any of the other new colonies. This larger debt per capita might be partly explained by the fact that the farmers visited in Moffette did not benefit by the Gordon Land Settlement Scheme or the Vautrin Colonization plan. Moreover, the investment in farm buildings and fences, household equipment, farm equipment and live stock was much higher in Moffette than in any other new colony except St-Félix.

The farmers visited in Palmarolle had an average debt per farm much lower than the farmers in the other old colonies. The average debt per farm was $241 as compared to $524 for all the farmers visited in the 4 old colonies. The farmers visited in Fugèreville had an average debt of $779 per farm which was higher than the average for any of the other old colonies.

INTERNATIONAL BIBLIOGRAPHY OF AGRICULTURAL ECONOMICS, a new quarterly publication of the International Institute of Agriculture in Rome

The International Institute of Agriculture in Rome has now begun to publish a current bibliography, at quarterly intervals, which will deal with agricultural economics in all its various phases. This bibliography will be based on the material received by the Library of the Institute and continues the "Internationale Bibliographie des agrarokonomischen Schrifttums," which was started in 1933 and included in the journal "Berichte uber Landwirtschaft" published under the auspices of the German Ministry of Agriculture.

The scope of the bibliography covers the economic and social aspects of agriculture, such as agricultural economics, agricultural policy, settlement, credit, co-operation, insurance, marketing, prices, statistics, farm organization and management, valuation, labour, accounting, and closely allied subjects such as rural sociology, agricultural history and geography, legislation and education. Titles of all publications, whether books and pamphlets or articles in periodicals, are given and all bibliographical details required for proper identification. All languages receive equal treatment and titles in the less known languages are provided with a translation.

The bibliography, which is the only one which covers systematically the world literature on agricultural economics, is carefully classified by subjects. An author-index will be supplied at the end of each volume. The annual subscription, postage included, is 7/0 shillings or $1.60.

AMERICAN FARM ECONOMIC ASSOCIATION

Several hundred agricultural economists from Canada and the United States attended the meetings of the American Farm Economics Association in Detroit on December 28-30, inclusive.

Many interesting and instructive papers were presented for discussion by prominent economists from various governmental and college institutions. Some of the topics discussed included: The Problems of Farm Operation under the Agricultural Adjustment Act; The Public Control of Land; The Farm Co-operative Movement; Adjustments Needed in Types of Farming; The Demand for Agricultural Products; Assistance to Low Income Farmers and The Farm Credit Situation in the United States. Group discussions were also held on research methods in farm management and marketing, farm prices, land values, agricultural statistics, cost of milk distribution, and farm management extension work.

MARKETING OF QUEBEC FRESH FRUITS AND VEGETABLES IN MONTREAL, 1937[1]

B. A. Campbell

Total sales of fresh fruits and vegetables by growers in 1937 on all the different public markets in Montreal are estimated at $3,008,700. These figures are based on information obtained from 967 growers in a recent survey made in Montreal of the distribution of fresh fruits and vegetables. The study was made by the Economics Division, Marketing Service of the Dominion Department of Agriculture in co-operation with the Department of Agriculture and the Department of Trade and Commerce of the Quebec Government. Table 1 shows the actual loads brought to the different markets in 1937 and the total estimated

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[1] Preliminary Report—Subject to Revision.

Table 1.—Total Estimated Sales of Local Fruits and Vegetables Sold by Growers on Different Markets in Montreal in 1937 (Based on Records of 967 Growers)

Market	Actual loads	Average value per load 1937	Total value	Percentage of total
		$	$	
Bonsecours	71,068	23·65	1,680,700	55·9
Jean Talon	19,317	19·72	380,900	12·6
Maisonneuve	12,846	26·97	346,400	11·5
Atwater	15,491	21·81	337,900	11·2
St. Jean Baptiste	9,648	15·13	146,100	4·9
Other*	6,893	16·92	116,700	3·9
Total	113,263	22·58	3,008,700	100·0

*St. James and St. Lawrence.

value for each market. The total value for each market represents the estimated amount the producers received for their produce whether they sold at retail to actual householders for consumption, or at wholesale to other buyers for resale. Direct sales to chain stores, wholesalers or jobbers, retail stores, hotels or restaurants are not included nor are sales made on the Lachine market.

Table 2.—Estimates of Total Sales of Fresh Fruits and Vegetables Sold by all Growers on Montreal Markets from Different Areas, 1937

County	Vegetables	Potatoes	Tree fruits	Small fruits	Total
	$	$	$	$	$
By value—					
Laval	1,120,800	242,700	5,700	14,600	1,383,800
Jacques Cartier	494,200	38,300	25,900	17,600	576,000
Napierville	39,500	206,100	12,800	9,700	268,100
Rouville	2,000	1,200	198,200	3,200	194,500
Deux Montagnes	77,100	14,500	67,100	35,800	194,500
Laprairie	75,100	41,800	7,700	6,100	130,700
Terrebonne	77,100	9,900	700	10,100	97,800
Chambly	61,300	600	....	100	62,000
Chateauguay	9,900	15,700	16,200	6,500	48,300
L'Assomption	13,800	8,700	300	9,800	32,600
Other	5,900	1,200	2,400	800	10,300
Total	1,976,700	580,700	337,000	114,300	3,008,700
Percentage of total	65·7	19·3	11·2	3·8	100·0
	%	%	%	%	%
By percentage—					
Laval	56·7	41·8	1·7	12·8	46·0
Jacques Cartier	25·0	6·6	7·7	15·4	19·1
Napierville	2·0	35·5	3·8	8·5	8·9
Rouville	0·1	0·2	58·8	2·8	6·8
Deux Montagnes	3·9	2·5	19·9	31·3	6·5
Laprairie	3·8	7·2	2·3	5·3	4·3
Terrebonne	3·9	1·7	0·2	8·8	3·3
Chambly	3·1	0·1	....	0·1	2·1
Chauteauguay	0·5	2·7	4·8	5·7	1·6
L'Assomption	0·7	1·5	0·1	8·6	1·1
Other	0·3	0·2	0·7	0·7	0·3
Total	100·0	100·0	100·0	100·0	100·0

Growers on the Bonsecours market had an annual turnover of $1,680,700 in 1937 which represented 55 per cent of all business done on the public markets in Montreal. Jean Talon, Maisonneuve and Atwater markets were of almost equal importance, each doing approximately 12 per cent of total business.

Of the estimated total of over three million dollars, vegetables made up 65·7 per cent or $1,976,700 (table 2) with Laval and Jacques Cartier counties on the Island of Montreal and the Island of Jesus accounting for over 81 per cent of the total sales. Potatoes sold on the public markets totalled $580,700, 76 per cent of which originated in Laval and Napierville counties. Sales of tree fruits represented $337,000 approximately 60 per cent of which came from Rouville county with Deux Montagnes next in importance with 20 per cent. Small fruits totalled $114,300 with Deux Montagnes, Jacques Cartier and Laval counties being of primary importance.

Information relating to the bridges used by all growers who sold in Montreal in 1937 is shown in table 3.

TABLE 3.—BRIDGES USED BY GROWERS WHO BROUGHT PRODUCE TO MONTREAL IN 1937 (BASED ON RECORDS OF 967 GROWERS)

Bridge	Percentage by loads	Main counties using different bridges
	%	
No bridge (residents of Island of Montreal)	32·7	Jacques Cartier, Laval.
Cartierville	27·2	Laval, Deux Montagnes, Terrebonne.
Viau	16·5	Laval, Deux Montagnes, Terrebonne.
Victoria	13·2	Napierville, Laprairie, Rouville, Chambly.
Honore Mercier	3·4	Napierville, Laprairie, Chateauguay.
Isle Bizard	2·5	Jacques Cartier.
Jacques Cartier	2·0	Rouville, Chambly.
Bout de L'Ile	1·3	L'Assomption.
Pie IX	1·2	Laval, Rouville.
	100·0	

Approximately one-third of the loads brought to the Montreal markets were from growers residing on the Island of Montreal. Cartierville Bridge was used most extensively and loads trucked over this bridge included produce from Deux Montagnes and Terrebonne as well as from Jesus Island. Viau Bridge serving the same counties was next in importance with 16·5 per cent of the total number of loads coming via this route. Loads which come over Victoria bridge from the counties of Napierville, Laprairie, Rouville and Chambly constituted 13·2 per cent of the total sample.

VALUE OF MONTREAL CARLOT RECEIPTS OF FRESH FRUITS AND VEGETABLES DURING 1937

Fresh fruits and vegetables having a value of approximately $11,877,000, arrived in Montreal in full carlots by rail (freight and express), in 1937, according to a study which has been conducted by the Dominion and Quebec Departments of Agriculture, and is now being analysed (Table 1). Of this total, about 1 per cent came from the Province of Quebec, 23 per cent from other Canadian provinces, 47 per cent from the United States, and 29 per cent from other countries. Shipments received by l.c.l. freight, express, and boat, and the great volume arriving at Montreal by motor trucks are not included in this total.

During 1937, 12,456 full cars of fresh fruits and vegetables were received in Montreal. These are made up of 271 cars from Quebec, 4,579 from other Canadian provinces, 3,793 from the United States, and 3,813 from other countries. The commodities in the 271 carloads from the Province of Quebec were as follows: potatoes 230, cars, strawberries 27 cars, peas 9 cars, blueberries 4 cars and turnips one car.

Fruits, other than citrus, accounted for about 36 per cent of the total value of the 1937 carlot receipts of fresh fruits and vegetables arriving in Montreal (Table 2). Citrus fruits represented about 27 per cent, vegetables 25 per cent, potatoes 11 per cent, and mixed carlots and miscellaneous commodities about 1 per cent.

TABLE 1.—ESTIMATED VALUE BY ORIGIN OF FRESH FRUITS AND VEGETABLES UNLOADED FROM FULL CARLOADS (FREIGHT AND EXPRESS) IN MONTREAL IN 1937

Origin	Total Value	Percentage by Origin
	$	%
Quebec Province	149,209	1
Other Provinces	2,713,416	23
United States	5,519,001	47
Other Countries	3,495,253	29
Total	11,876,879	100

TABLE 2.—RELATIVE IMPORTANCE OF DIFFERENT GROUPS OF FRESH FRUITS AND VEGETABLES RECEIVED IN MONTREAL IN FULL CARLOTS (FREIGHT AND EXPRESS) IN 1937

Commodity Group	Total Value	Percentage different Commodity Groups
	$	%
Vegetables	3,003,639	25·3
Potatoes	1,288,176	10·9
Citrus fruits	3,150,115	26·5
Other fruits	4,323,653	36·4
Mixed fruits and vegetables	63,925	0·5
Miscellaneous commodities	47,371	0·4
Total	11,876,879	100·0

NOTES

The Farm Outlook for Saskatchewan 1939 has recently been released for distribution by the Department of Agricultural Extension, University of Saskatchewan. Prepared by the Farm Management Department of the same University it summarizes the demand for agricultural products and assesses the prospects for the Saskatchewan farmer during the present year.

Cold storage stocks of butter at 53,048,335 pounds on December 1, were 39 per cent above the levels of a year ago.

The 1938 Canadian tobacco crop was estimated at 96 million pounds, the largest ever produced. The flue-cured type amounted to 73·8 million pounds.

The total value of Canadian trade for the year ending December, 1938, was $1,634 million. Imports were $667·5 million, domestic exports $913·4 million and foreign exports $43·4 million.

ECONOMIC LITERATURE

HISTORY OF PRAIRIE SETTLEMENT AND "DOMINION LANDS" POLICY.—Arthur S. Morton and Chester Martin; Vol. II, Canadian Frontiers of Settlement, edited by W. A. Mackintosh and W. L. G. Joerg. The Macmillan Company of Canada Ltd., St. Martin's House, Toronto, 1938, 571 pages, $4.50.

This volume is most admirably planned. In the first section of the book, Professor Morton has traced the actual settlement of the prairies from the early times of the fur-traders up to the year 1925, while to Professor Martin has fallen the task in the second section, of describing the land policy which accompanied the settlement. In the foreword, the joint editor of Canadian Frontiers of Settlement, Professor Mackintosh, aptly writes, "The themes of this volume are experiment and evolution, the development of the circumstances and the tools by which prairie settlement was effected."

In his preface to "History of Prairie Settlement" Professor Morton states, "The requirement of this monograph was that it must be essentially factual." While accomplishing this requirement, the author has also succeeded in painting a most interesting picture of settlement in the prairies, with its hardships and failures, its compensations and successes.

Early settlement up to 1881 is covered in the first three chapters and the next three, each covering a period of a decade, deal respectively with the effect of the coming of the railways, the settlement which developed adjacent to the railways and in new areas reached by them and the great expansion period of 1901-1910. The concluding chapter deals with the years of the rapid increase of production from 1911 to 1925—the last year covered by the study.

The author has not overlooked the importance of the geographic aspect of prairie settlement. Both the physical and climatic features of the area have played a major part in the past history of land settlement, just as they still do to-day and will continue to do in the future. Throughout the text the effect of this geographic factor has been linked in together with an account of the gradual evolution of the modern agricultural technique as we know it to-day.

Professor Martin's monograph, "Dominion Lands" Policy, covers much the same historical period as that of Professor Morton. The introductory chapters deal with land policy during the régime of the Hudson's Bay and North West Companies. In 1870, Rupert's Land and the "North Western Territory" was transferred to the Dominion of Canada and from then until 1930, "a quarter of a continent of 'Dominion Lands' came under direct federal administration.

"During this period a system of survey was adopted, unsurpassed in its consistency and exactitude." Railway land grants made the railways a reality and the free-homestead system encouraged the agricultural settler. School lands and Hudson's Bay lands were provided for. "After 1908 railway land reserves were formally liquidated and the remaining resources of 'Dominion Lands' were thrown open to homestead entry." In 1930 the purpose of federal control of lands had been achieved and the remaining resources were transferred to provincial control.

It is this period of sixty years that Professor Martin has described in considerable detail, giving the reader a clear picture of the development of the federal legislation which went to make the "Dominion Lands" Policy.

When necessary throughout the volume, maps and charts have been used to supplement the text and a comprehensive index to both parts enhances its value.

OTTAWA: Printed by J. O. PATENAUDE, I.S.O., Printer to the King's Most Excellent Majesty, 1939.

The

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MARKETING SERVICE
DEPARTMENT OF AGRICULTURE
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ECONOMIC SITUATION

The uncertainty of the European political situation remains a major factor in the world economic outlook. There was some improvement in business activity in the United Kingdom during January and a decline in unemployment in February may indicate some further improvement in prospect. Industrial production in the United States appears to be about in balance with prevailing consumption and the slight decline in activity during the first two months of the year was probably the result of over expansion in certain industries in the late months of 1938 and the consequent necessary lowering of inventories. The level of international wholesale prices has shown little change since the beginning of the year.

Canada.—Wholesale commodity prices remained stable during the first two months of the year and the combined wholesale price index for 567 commodities was 73·2 for both months. The index for the week ending March 17, indicated no change.

Cash prices for wheat and other grains moved within narrow limits in both January and February. The average January cash price for No. 1 Manitoba Northern wheat at Fort William was 59·9 cents and the February price 60·4 cents a bushel. The average price of flax improved from 143·6 cents in January to 147·1 cents per bushel in February.

Live stock prices advanced steadily in January, and with the exception of lambs, showed further improvement during February. Prices moved during the month to the highest levels since August, 1938.

The cost of living index declined slightly in both January and February chiefly owing to moderate reductions in food prices. The fuel index was also fractionally lower in February.

Business activity in January as measured by the index of physical volume declined from the figure for the preceding month of 115·6 to 113·0.

The British Market.—According to figures of the Board of Trade, the external trade of the United Kingdom in 1938 amounted to £1,452,929,000 and of this figure imports totalled £920,437,586.

Canada was in third position in trade with the United Kingdom, the aggregate figure (imports and exports of commodities) being £102,135,532 with imports from Canada amounting to £78,564,459. The United States stood in first place with a total trade figure of £146,655,443 and Australia in second place with £111,078,115. Imports from Australia were valued at £72,120,643 and British exports to that country totalled £38,957,472.

During the year, Canada was the chief supplier of the British market with wheat meal and flour, barley, oats, apples and unsweetened condensed milk.

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

Year	Wholesale Prices 1926=100				Retail prices and cost of services (5)	Production (6) 1926=100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·5	57·3	74·0	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·8	112·3	114·4	82·7	141·3
1937....	84·5	84·5	85·7	84·9	83·1	122·8	120·8	49·4	157·3
1938....	78·6	73·6	69·0	81·3	83·3	112·9	114·6	64·9	144·5
1938									
Feb....	83·6	85·1	87·5	81·1	83·9	106·7	107·4	25·7	137·2
Mar....	83·1	83·0	83·8	81·7	84·2	108·8	110·2	29·7	133·4
April...	82·3	82·5	83·2	81·2	84·2	112·4	114·2	38·3	131·9
May....	80·3	77·3	74·6	81·8	84·1	110·7	112·5	41·1	157·8
June....	80·1	76·6	74·3	80·5	84·0	108·4	109·3	20·6	188·3
July....	78·6	71·5	65·9	80·8	84·1	109·1	109·8	40·3	142·7
Aug.....	76·0	64·2	54·9	79·7	84·8	110·5	110·8	89·2	139·2
Sept....	74·5	62·4	51·2	81·1	84·0	119·2	120·7	123·9	135·1
Oct....	74·1	63·8	53·6	81·0	83·8	118·6	121·1	145·6	138·8
Nov....	73·5	64·9	54·6	82·1	83·7	123·4	128·3	101·6	148·3
Dec....	73·3	64·6	53·8	82·8	83·5	115·6	118·1	85·7	146·7
1939									
Jan.....	73·2	64·8	54·7	81·7	83·1	113·0	114·2	52·0	152·8
Feb....	73·2	64·7	54·7	81·5	82·9	111·7	114·1	32·3	161·4

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1936, p. 17.

2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1936, p. 52, and Monthly Mimeographs 1937-39.

3. Wholesale prices of grains, fruits and vegetables.

4. Wholesale prices of Animals and Animal Products.

5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.

Prices and Price Indexes 1913-1936, p. 103, and Monthly Mimeographs, 1937-1939.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

Yearly index numbers for 1938, subject to revision.

The chief supplier of bacon was Denmark with Canada in second place and Canada took second place to the United States in the quantity of hams supplied. Canada shipped 678,130 cwt. of cheese and was in second place to New Zealand with shipments amounting to 1,639,486 cwt. The premier place in the British market for animals for food purposes was taken by Eire which supplied 620,230 head; Canada was in second place with 26,450 head.

International Balance of Payments 1938.—The outflow of capital from Canada was reduced last year, but continued in large volume. Credit balances from merchandise and tourist trade showed reductions, but these were partly offset by decreases in net payments on account of dividends, freight and miscellaneous services and an increase in credit from gold sales. Net credits on current account were $184·4 million in 1938 against $218·2 million in the preceding year. Despite a decline in the favourable balance of tourist traffic of about $17 million below the 1937 figure, the 1938 estimate of $149 million is a most important item of revenue to the country.

RATING THE SUCCESS OF FARM BUSINESS

H. R. Hare

As commercial agriculture has developed, the demands placed upon farm management have increased. The competition for markets has become greater which, from the consumer's standpoint, assures him of an abundant supply and provides him the opportunity of greater choice. To the producer of farm products, however, the responsibility of making correct choices of enterprises and selecting the most advantageous type of farm organization has become an important problem. Studies conducted in many areas show that some farmers succeed to a greater or lesser extent in every locality. Few businesses are as difficult to conduct with financial success as farming. In spite of this, the percentage of registered farmer failures, over a long period of time, is less than in urban industry. The explanation lies in the fact that farming in addition to being a business " is a mode of life." The farmer may secure abundant satisfaction from it even though his living standard, as interpreted generally, may be low.

A study of the dairy farming business in Ontario has been in progress for about two years and the data which follows is based upon this study. This project is being conducted jointly by the Ontario Agricultural College, Guelph, and the Economics Division, Marketing Service, Ottawa, in co-operation with the organized milk producer groups of the Province. Results of the first year, ending June 30, 1937, reveal striking variations in the net returns to milk producers from their business. Studies of a similar nature, in other parts of Canada and in other countries have, at other times, shown similar wide differences in the farm business returns. As in urban business, some operators do well while others hold on only with great difficulty.

The operator labour earnings is the term used to express the net returns in cash and in kind which the farm operator receives for the labour and management he applies to the business. The highest operator labour earnings, for the year ending June 30, 1937, amongst 460 shippers of milk to fluid markets, was $5,511 and the lowest (minus) $–1,879. The variation between the operator labour earnings of these two farms was more than $7,000. While one cannot, with accuracy, gauge farming by the net returns of any one year of operation, wide variation in net returns are characteristic of all such studies.

There are several conditions which are responsible for this great difference in income. Some of these conditions come within and some are beyond the control of the operator. A farmer may suffer a reverse due to unfavourable weather conditions in any one year but, over a period of years, he may learn, through experience, the kind of weather to expect and can make adjustments in his business accordingly. Price hazards may be met with some degree of success by a study of markets and market information. Success in farming does not come by accident but by means of careful planning.

Before the farm manager begins to effect adjustments in his business, he should make a careful survey to determine the points where changes may most effectively be made. An efficiency rating, relative to five farm management factors, provides a sound basis for the determination of the strong and weak points of a farm business. These factors are: (*a*) crop production, (*b*) live stock and live stock product production, (*c*) use of labour, (*d*) use of capital, (*e*) scale of operation or size of business.

Practically the whole of the farmer's income is derived through the application of effort in the production of crops and live stock of various kinds. The good farm operator aims to secure high production per unit in his crop and livestock enterprises. High production per unit, however, may be derived without regard to the other factors of production such as labour and capital. Costs are involved in the use of these factors and efficiency needs to be considered in regard to costs. The factor of scale of operation or size of business wields a great influence on net income, depending upon the efficiency rating relative to the first four factors. This is strikingly portrayed by analysis of the data relative to the whole milk farms of the Ontario Milk Study. When the farms were rated relative to the first four factors as below average for the group and above average in size, the operator labour earnings were $69. With all factors rated above average including size, the operator labour earnings were $1,923. Changes to be effected, in the size of farm or volume of business, should be considered in relation to efficiency in concerning the first four mentioned factors.

For each of the five factors, many different measuring rods may be applied to ascertain the relative efficiency of each individual farm business among a group being studied. Results are here presented of one section of the Ontario dairy farm study where the measures used in rating the different farm management factors are as below:—

Farm Management Factors	*Measures Used*
1. Size of business	Adjusted acres
2. Crop production	Crop index
3. Live stock and live stock product production	Milk production per cow
4. Use of labour	Cash receipts for each 12 months of labour
5. Use of capital	Years for cash receipts to equal total value of all farm capital

The effect of varying degrees of efficiency in the five farm management factors on operator labour earnings and on the cost of producing 100 pounds of milk, is shown in Tables 1-5. The basic data used is that of the Ontario whole milk shipper farms for the year ending June 30, 1937.

Size of Business.—Several other measures may be applied to rate the size of business such as total acres, crop acres, total farm capital, total income or number of animal units. The adjusted acres, the measure here used, is obtained by reducing the rough pasture and wooded area to a tillable area basis based upon the feed produced thereon. It is estimated that approximately three acres of rough pasture or ten acres of wooded pasture would produce feed equal to

TABLE 1.—RELATION OF SIZE OF FARM TO OPERATOR LABOUR EARNINGS AND MILK COST ON WHOLE MILK PRODUCING FARMS OF ONTARIO FOR THE YEAR ENDING JUNE 30TH, 1937

Adjusted acres	Number of farms	Average adjusted acres per farm	Average labour earnings	Milk cost per 100 lbs. of milk
			$	$
Under 90	83	67	338	2 20
90–119·9	103	99	471	2 14
120–149·9	78	129	574	2 06
150 and over	97	233	865	2 05
All farms	361	122	566	2 10

one acre of tillable land. This figure is added to the tillable acreage of the farm and called adjusted area.

Table 1 shows that size of farm was a factor of considerable importance as a means of increasing the operator labour earnings and reducing the cost of producing 100 pounds of milk. Each increase of area produced an economic advantage over the smaller acreages. It is of interest to note here, that a wide range in operator labour earnings and in milk cost existed in each group. It would appear that it is not a matter of acreage only but one chiefly of building up a large volume of business on the acreage at the disposal of the dairy farm operator.

Crop Production.—Crop yields are particularly important as a means of using land economically. Table 2 presents an analysis of the data classified on the basis of crop yields. The crop index is used as a measure of efficiency in this regard. A farm having a crop index of 100 would be one where the yield of all crops would be equal to the average of all farms. Higher or lower crop indices would represent yields that are above or below the average yield.

TABLE 2.—THE RELATION OF CROP INDEX TO OPERATOR LABOUR EARNINGS AND MILK COST ON WHOLE MILK PRODUCING FARMS OF ONTARIO FOR THE YEAR ENDING JUNE 30TH, 1937

Crop index	Number of farms	Average labour earnings	Milk cost per 100 lbs. of milk
		$	$
Under 80	44	67	2 33
80–99·9	85	318	2 14
100–119·9	122	558	2 06
120 and over	110	965	2 03
All farms	361	566	2 10

The crop yield is shown, in Table 2, to have a very decided effect on the farmer's net returns and his milk cost. Every effort should be exerted toward securing a high yield per acre of crops by using high yielding varieties adopted to the locality and by thorough cultivation.

Live Stock and Live Stock Product Production.—Milk sales per cow was used as a measure of determining the efficiency in live stock work. In that the greater part of the live stock revenue came from cows, this measure serves quite well.

TABLE 3.—RELATION OF MILK SALES PER COW TO OPERATOR LABOUR EARNINGS AND MILK COST ON WHOLE MILK PRODUCING FARMS OF ONTARIO FOR THE YEAR ENDING JUNE 30TH, 1937

Milk sales per cow	Number of farms	Average milk sales per cow	Average labour earnings	Milk cost per 100 lbs. of milk
lbs. per year		lbs per year	$	$
Under 6,000	73	4,990	259	2 46
6,000–7499	120	6,462	533	2 17
7,500–8999	107	7,847	763	2 00
9,000 and over	61	9,867	652	1 88
All farms	361	7,067	566	2 10

The operator earnings increase with the increased sale up to 9,000 pounds per cow. Beyond that point, they are reduced. Milk costs are reduced consistently with an increased sale of milk per cow even beyond 9,000 pounds per cow. Producers of milk for whole milk markets may be encouraged to increase the milk sales per cow even beyond the 9,000 pound mark.

Use of Labour.—A simple measure, in determining the efficiency in the use of labour, is that of the relationship of the cash receipts of the farm to the number of persons employed for 12 months on farm work. The cash receipts includes all cash income for the year. The labour employed may be reduced to months and divided by twelve. This gives the number of man units of labour applied during the year. This figure divided into the cash receipts provides a worthwhile measure of efficiency.

In applying this measure to the Ontario whole milk producer's business for the year ending June 30, 1937, it was found that the average cash receipts per man were $1,203. The data are shown classified on the basis of the cash receipts per man in Table 4. High cash receipts per man are shown to have a very outstanding effect in the economic operation of dairy farms.

TABLE 4.—THE EFFECT OF VARYING CASH RECEIPTS PER MAN ON OPERATOR LABOUR EARNINGS AND ON MILK COST ON WHOLE MILK PRODUCING FARMS FOR THE YEAR ENDING JUNE 30TH, 1937

Receipts per man	Number of farms	Average labour earnings	Milk cost per 100 lbs.
$		$	$
Up to 900	82	30	2 31
900 to 1,199	115	344	2 19
1,200 to 1,499	98	744	2 05
1,500 and over	67	1,342	1 91

Use of Capital.—The relationship of the annual cash receipts to total value of farm capital is the measure applied in determining the efficiency in the use of capital. Table 5 shows a classification of data relative to the Ontario whole milk producers' business on the basis of years required for cash receipts to equal the total value of farm capital.

TABLE 5.—THE EFFECT OF THE NUMBER OF YEARS FOR CASH RECEIPTS TO EQUAL THE TOTAL FARM VALUES ON WHOLE MILK FARMS OF ONTARIO FOR THE YEAR ENDING JUNE 30TH, 1937

Years for cash receipts to equal total farm capital	Number of farms	Average labour earnings	Average milk cost per 100 pounds
		$	$
Over 6	78	−26	2 33
5·1—6	79	287	2 21
4·1—5	99	580	2 07
4·0 or less	106	1,194	1 92

The effect of the economical use of capital is a very great factor in dairy farming where capital values tend to be comparatively high. In the whole milk production business, the operators should aim to build up annual cash receipts equal to one quarter of the farm value.

The Cumulative Effect of Above Average Efficiency in All Farm Management Factors.—Tables 1 to 5 show the effect on operator labour earnings and milk cost of varying degrees of efficiency of the five farm management factors. A wide range of efficiency is noted to prevail with regard to each of these factors. It would be unreasonable to expect extreme efficiency in regard to all factors for every farmer. Table 6 presents an analysis of the data relating to the business of the Ontario whole milk producers which shows the cumulative effect of above average efficiency in different factors. Those farmers who achieved above average efficiency in all factors were few in number but, their average operator earnings and milk cost show pronounced economic advantage.

TABLE 6.—EFFECT OF HAVING FACTORS BELOW AVERAGE, AVERAGE OR ABOVE AVERAGE ON OPERATOR LABOUR INCOMES AND MILK COST PER 100 POUNDS ON WHOLE MILK SHIPPER FARMS OF ONTARIO FOR THE YEAR ENDING JUNE 30TH, 1937

No. of factors			[1]Measures used	No. of farms	Average operator labour earnings	Milk cost per 100 pounds
Above average	Average	Below average				
					$	$
—............	—	5	1, 2, 3, 4 & 5	28	28	2 31
—............	5	—	None	362	566	2 10
1............	4	—	1	162	682	2 08
2............	3	—	1 and 2	84	806	2 00
3............	2	—	1, 2 and 3	43	1,294	1 91
4............	1	—	1, 2, 3 & 4	35	1,560	1 82
5............	0	—	1, 2, 3, 4 & 5	23	1,923	1 77

[1] 1=Crop acres, 2=Milk sales per cow (lbs.), 3=Crop Index, 4=Cash receipts per man, 5=Years for cash receipts to equal total farm capital.

It will be noted that comparatively few of the whole milk producers were either above or below average in all five factors. The attempt should be made, on the part of all farmers, to learn the factor or factors which indicate low efficiency and strive to make improvements at these points.

The averages for the various factors of the 362 whole milk shippers are shown below. They are the basis of the factors used in Table 6.

Size of Business.................. 91 Crop Acres

CROP PRODUCTION—AVERAGE CROP YIELDS:

	Bus. per acre		Bus. per acre
Oats..............	30·7	Wheat.............	24·5
Barley............	30·0	Mixed grain........	29·4
Corn (grain)........	34·6	Buckwheat...........	21·0
	Tons per acre		Tons per acre
Corn silage..........	7·4	Clover and timothy hay..	1·5
Alfalfa hay..........	1·75	Turnips.............	8·7
Mangels............	12·6		

Live stock product production............	7,067 pounds milk sold per cow per year
Use of labour............................	Cash Receipts per Man $1,203
Use of capital............................	Cash Receipts to total Capital 1—4·7

Those farmers who have kept accurate record of their farm business will find that the above measures may be applied to their business quite readily. It should be pointed out that these measures are based on average achievement. Tables 1 to 5 show conclusively, that achievement above average in any factor is well rewarded hence, may well be attempted. Those farm businesses which rate relatively low in one or more factors, as determined by these measuring rods, offer the greater hope of improvement in net returns through the application of farm management measures to the business, if these findings are acted upon by farm managers.

SOME ASPECTS OF LAND SETTLEMENT IN NORTHEASTERN ONTARIO, 1936-37

A. GOSSELIN AND G. P. BOUCHER

This article, dealing with Ontario, is a further report of a land settlement study made in 1937 in Northwestern Quebec and Northeastern Ontario by the Economics Division, Marketing Service, Dominion Department of Agriculture. Two previous articles descriptive of land settlement in Northwestern Quebec appeared in the December, 1938, and February, 1939, issues of the *Economic Annalist.*

The administration of all matters relating to land settlement in Northern Ontario comes under four different departments. Amongst its numerous other functions the Department of Lands and Forests administers the Colonization Roads Act and has charge of the sales and grants of land. The Department of Northern Development, set up to administer the Act for the Development of Northern and North West Ontario passed in 1912 and the Settlers' Loan Act of 1916, has since 1926 been entirely separate from the Lands and Forests Department, although under the same Minister. The Department of Agriculture through its Colonization and Immigration Branch has charge of the establishment of new settlers and gives them free advice on technical and other matters. The agricultural representatives also give advice to the settlers and help them in planning their general farm activities. The Agricultural Development Board instituted in 1921 for making long-term loans to Ontario farmers also granted such loans to settlers having at least 35 acres under cultivation. The Department of the Surveyor General conducts surveys throughout the province and has charge of the dividing of the northern part of the province into townships of about six miles square. The size of each lot originally was 160 acres, but in order to have closer settlement this was reduced to 80 acres.

Ontario Land Settlement Policy.—The financial assistance given by the Ontario Government to settlers in the first stage of their establishment is somewhat different from that given under the policy followed in the province of Quebec. As shown in a previous article, the system initiated in Quebec in 1923 consists of free grants to settlers as land clearing and ploughing bonuses during the first five or six years of their establishment on their lots. At first this bonus was rather small, but it was gradually increased and at the present time the total amount of free grants received by each settler in premiums or bonuses of different kinds varies from $700 to $1,000.

In Ontario, financial assistance is given to settlers as loans which have to be repaid over a period of years. Under the Settlers' Loan Act of 1916 a settler who has taken up his lot and made a start may, if he is considered a suitable applicant, secure a loan up to $500 from the Northern Development Board. He may also secure seed grain and cattle through the Government which takes a lien on his property. After a few years, a settler who has at least 35 acres of land cleared and under cultivation, may obtain from the Agricultural Development Board a long-term loan for the erection of farm buildings, or to pay off any mortgage and generally organize his farm. The departmental reports show that many Northern Ontario settlers took advantage of the privilege of securing a loan of a few hundred dollars under the Settlers' Loan Act.* From 1916 to March 31, 1937, 10,562 applications were received by the Northern Development Board for a total amount of $4,103,191. From these applications, 5,827 loans were issues to the value of $1,932,487, the average loan per settler being $332. On March 31, 1937, 2,903 loans totalling $1,169,530, had been repaid in full and the average amount repaid by each settler was $403. At that date there were 2,924 loans outstanding representing a balance of unpaid principal of $712,957 and unpaid interest of $157,379. This indicates that 60 per cent of

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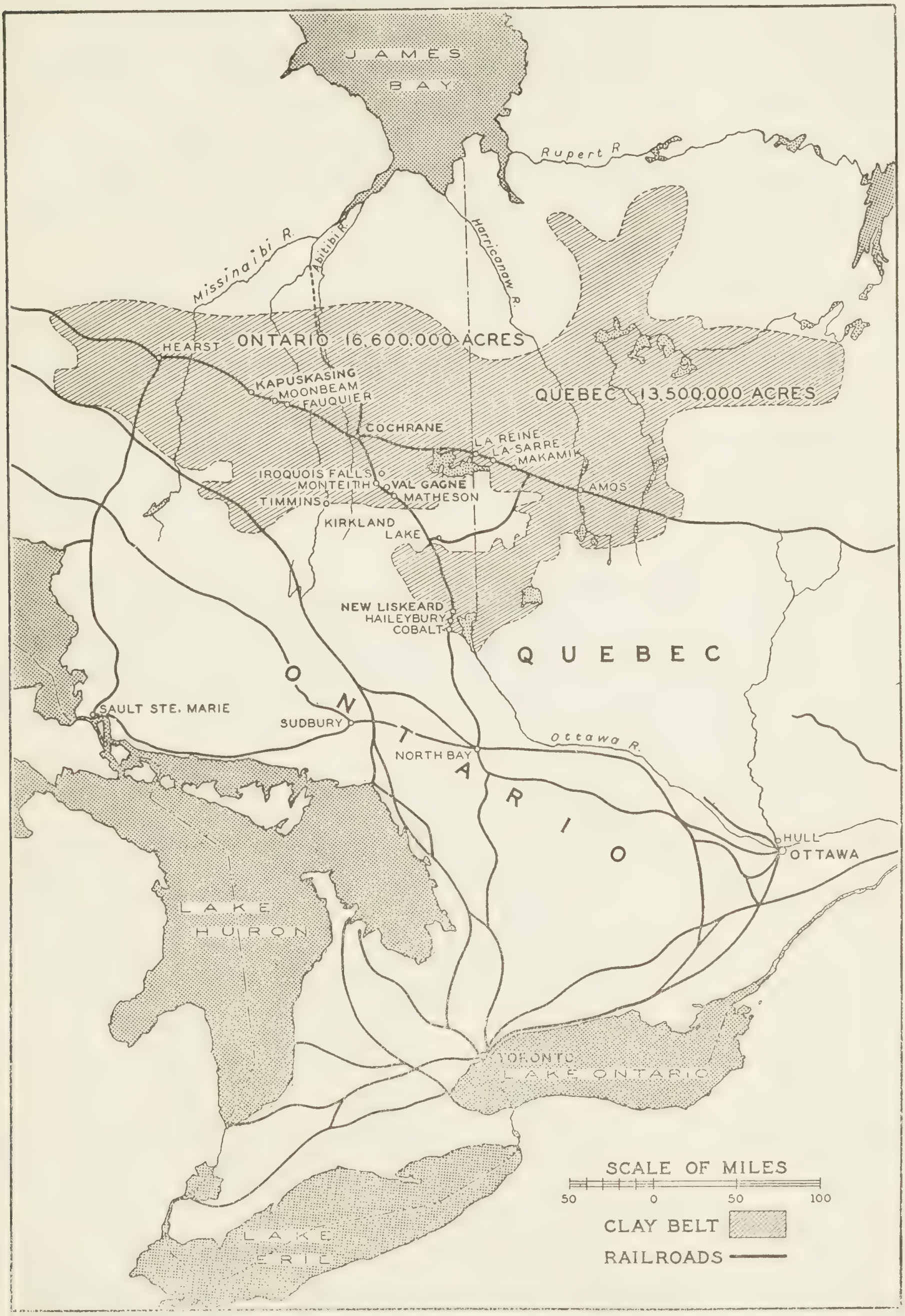
Preliminary report subject to revision.

* Department of Northern Development Report, March 31, 1937, p. 29-32.



Map showing the Clay Belt of Ontario and Quebec where this Land Settlement Study was made in 1937. (National Development Bureau).

the loans granted from 1916 to 1937 was repaid by settlers. Owing to the depression there was a sharp decrease in repayments of these loans from 1932 to 1937. Since March 31, 1936, no new loans of this kind have been issued to settlers by the Northern Development Board and the Agricultural Development Board also ceased to make new loans to settlers as well as to Ontario farmers from the beginning of the same year.

It is difficult to appraise the relative merits of the Quebec and Ontario land settlement policies because there are several other factors which must be considered apart from mere government financial assistance. It may be said, however, that Ontario settlers received such assistance much earlier than Quebec settlers. A land settlement policy based on loans granted to settlers instead of free grants is somewhat less costly to the state.

Colonies Visited.—Settlers interviewed in this survey are located in four distinct districts of the Northern Ontario Clay Belt: New Liskeard, Val Gagné, Cochrane, Kapuskasing. The New Liskeard district, located at the southeastern end of this area, was the first one opened to colonization some thirty years ago. Val Gagné is about 40 miles south of Cochrane. Cochrane is 75 miles west of the Quebec boundary and 80 miles east of Kapuskasing. Most of the farms located in the whole clay belt area are improved and under cultivation and properly speaking, these districts are no longer in the initial stage of settlement but may be considered as new farming sections. Most of the settlers visited are not the first settlers but the second or third occupiers of the farms they acquired from private owners.

Settlers' Original Assets.—Most of the settlers established in the new colonies of Northern Ontario since 1932 are city people who were on relief. They had very little financial resources besides the small amount of household goods they brought with them. The largest number of these settlers were established under the Gordon Land Settlement Scheme and received grants of $600 contributed in equal shares by the Dominion and Provincial Governments and the municipality concerned.

TABLE 1.—SETTLERS' ASSETS AT THE DATE OF ESTABLISHMENT, 91 SETTLERS IN CERTAIN COLONIZATION DISTRICTS OF NORTHEASTERN ONTARIO

Locality	Number of records	Household goods	Equipment	Livestock	Cash	Total assets
		$	$	$	$	$
New Colonies—						
New Liskeard	22	149	16	78	32	275
Cochrane	15	126	33	91	113	363
Total and averages	37	140	23	83	65	311
Old Colonies—						
New Liskeard	13	23	....	93	3,968	4,084
Val Gagné	8	94	....	218	1,871	2,183
Cochrane	23	118	20	140	1,431	1,709
Kapuskasing	10	158	....	127	1,942	2,227
Total and Averages	54	99	9	138	2,201	2,447

The older settlers, that is, those who came to Northern Ontario in the early days of the opening of this area to land settlement, were mostly people who had disposed of their farms in older sections of Ontario and Quebec. They came with the idea of making a fresh start at a time when a score of new mining and industrial centres were springing up and when the sale of timber and pulpwood was a profitable business. These settlers had substantial resources to start with but they had to pay quite a high price for the lots they bought from private owners and speculators. In many instances they paid a higher price for these lots, on which only a few acres were cleared and improved, than such lots were worth in 1937 when they had been almost completely improved and after substantial farm buildings had been erected on them. Of course, at the time of the original purchases, agricultural conditions in Canada were distinctly favourable and the future of the farming industry in Northern Ontario was quite promising.

TABLE 2.—AVERAGE PRICE PAID FOR FARMS, 91 FARMS IN CERTAIN COLONIZATION DISTRICTS OF NORTHEASTERN ONTARIO

Locality	Number of records	Price per farm	Price per acre
		$	$
New Colonies—			
New Liskeard	22	796	96
Cochrane	15	395	3 60
Total and averages	37	207	2 21
Old Colonies—			
New Liskeard	13	1,598	13 36
Val Gagné	8	2,731	13 52
Cochrane	23	2,202	9 81
Kapuskasing	10	2,400	13 00
Total and averages	54	2,171	11 52

Settlers' Income and Means of Living.—During the first five or six years of settlement on new farm land the revenue derived from the sale of farm products does not amount to much. Indeed, quite frequently the farm does not even furnish all of the food required by the settler and his family. He must, therefore, depend on other sources of revenue or upon some measure of government assistance to carry him up to the time he can derive sufficient revenue from his farm business. In recent years, the main sources of revenue of the northern Ontario settlers has been from labour off the farm, mostly road work, and from the sale of wood. During the depression, this was not sufficient and direct relief had to be given not only to new settlers, but also to many old settlers. During the last few years, the sale of wood provided a substantial revenue to only a

TABLE 3.—AVERAGE REVENUE PER FARM DERIVED FROM LABOUR OFF FARM AND SALES OF WOOD ON 91 FARMS IN CERTAIN COLONIZATION DISTRICTS OF NORTHEASTERN ONTARIO, THREE YEAR PERIOD, 1935-37

Locality	Number of records in each colony	Labour off farm		Sales of wood	
		No. of farms reporting	Average per farm reporting	No. of farms reporting	Average per farm reporting
			$		$
New Colonies—					
New Liskeard	22	21	89	4	60
Cochrane	15	7	198	9	221
Totals and averages	37	28	116	13	172
Old Colonies—					
New Liskeard	13	11	292	....	....
Val Gagné	8	4	446	....	....
Cochrane	23	13	404	5	205
Kapuskasing	10	5	293	4	2,490
Totals and Averages	54	33	355	9	1,220

few settlers in the Kapuskasing district, as there is very little wood left in the other districts. It has either been cut and sold many years ago or has been destroyed by forest fires as in the Cochrane district.

Government Assistance.—Of the thirty-seven new settlers visited in the districts of New Liskeard and Cochrane (table 4) twenty-six were established under the Gordon Scheme and benefited from the $600 grant under the Scheme during the first two years of their establishment. In addition to that, twenty-five of the new settlers in these colonies secured an average amount of $204 as direct relief while four of them obtained a settlers' or farm loan averaging $1,038.

TABLE 4.—GOVERNMENTAL ASSISTANCE TO 91 FAMILIES OF SETTLERS IN CERTAIN COLONIZATION DISTRICTS OF NORTHEASTERN ONTARIO

Locality	Number of records in each colony	Granted under Gordon scheme		Direct relief		Settler's and farm loans	
		No. of farms reporting	Average per farm reporting	No. of farms reporting	Average per farm reporting	No. of farms reporting	Average per farm reporting
			$		$		$
New Colonies—							
New Liskeard...........	22	18	600	14	178	1	500
Cochrane................	15	8	600	11	236	3	1,217
Totals and averages.........	37	26	600	25	204	4	1,038
Old Colonies—							
New Liskeard...........	13	....	....	1	250	5	1,300
Val Gagné...............	8	....	....	2	145	5	890
Cochrane................	23	....	....	10	249	14	2,043
Kapuskasing.............	10	....	....	3	336	7	1,336
Totals and averages.........	54	....	....	16	252	31	1,577

Sixteen of the fifty-four older settlers interviewed were given an average amount of $252 as direct relief while thirty-one of them were granted an average amount of $1,577 either as settlers' loan from the Northern Development Board or as farm loans from the Agricultural Development Board. In a few instances

TABLE 5.—AVERAGE VALUE OF FARM PRODUCTS SOLD BY 91 SETTLERS IN CERTAIN COLONIZATION DISTRICTS OF NORTHEASTERN ONTARIO, 1936–37

Locality	Number of records	Eggs	Butter	Livestock	Hay	Grains	Potatoes and Vegetables	Miscellaneous	Total
		Average value	Average value	Average value	Average value	Average value	Average value	Average value	Average value
		$	$	$	$	$	$	$	$
New Colonies—									
New Liskeard..........	22	10	18	29	....	3	....	1	61
Cochrane...............	15	2	4	4	27	....	....	....	37
Total and averages.......	37	7	12	18	11	2	....	1	51
Old Colonies—									
New Liskeard..........	13	65	178	139	10	36	....	4	432
Val Gagné..............	8	54	214	137	36	19	33	....	493
Cochrane...............	23	2	428	76	145	....	....	4	655
Kapuskasing...........	10	30	439	91	....	....	....	....	560
Totals and averages.......	54	30	338	102	70	12	5	3	560

they secured loans from both Boards which greatly facilitated the improvement and organization of their farms.

Farm Revenue, 1936-37.—As shown in table 5, the value of farm products sold in 1936-37 by settlers who have been farming for a considerable time in Northern Ontario, compares favourably with the sales of most farmers in the older Ontario farming sections. Sales of butter provide the main farm revenue for the settlers in the districts of Cochrane and Kapuskasing while in the districts of New Liskeard and Val Gagné, the revenue from the sales of live stock is almost as important as that derived from the sales of butter. In the district of Cochrane, sales of hay constitute an important source of income.

APPLES MARKETED IN THE SYDNEY MARKET AREA, 1937

E. P. Reid

To ascertain the size and nature of the Sydney area market for farm products, as well as the relative importance of the growing areas supplying it, representatives of the Economics Division of the Marketing Service of the Dominion Department of Agriculture and of the Nova Scotia Department of Agriculture made a study of the siutation. To this end railway freight and express records and vessel manifests were examined, and receivers of trucked shipments and local producers were questioned as to deliveries in the area in 1937. Some of the information compiled concerning the apple market in the Sydney area is presented below.

This market received 39,672 barrels of apples in 1937, which was equivalent to 206 carloads. Of these, 1,773 barrels were reshipped by local dealers to destinations outside the area, chiefly Newfoundland, leaving 37,899 barrels for consumption in the several mining and industrial towns and their environs. On the basis of a population of 90,000, the per capita consumption was about two-fifths of a barrel. The laid-down cost of the receipts was $138,702, an average of $3.50 per barrel. The value of the apples retained in the area for consumption was $130,674.

Areas of Origin.—The Annapolis valley of Nova Scotia, shown in the table as Hants, Kings, and Annapolis counties, supplied about 89 per cent of the physical volume of the receipts, part of which is shown as shipments from Halifax. The value, however, was only about 78 per cent of the total. The only other growing areas supplying significant amounts were British Columbia, the United States, and New Zealand, each shipping about 2 per cent of the total receipts. These latter three areas supplied dessert varieties in seasons when Nova Scotia apples were not available, and the costs averaged between $6.75 and $8.55 per barrel equivalent. Shipments from Cape Breton Island were 667 barrels, being 1·7 per cent of the total. The average price was $2.76 per barrel, and at least three-quarters of this local supply was sold by producers direct to consumers in Sydney and towns of this area.

Seasonal Volume.—September was the month of heaviest flow of apples to this Cape Breton market. In this month receipts were 9,904 barrels valued at $26,984 and the table shows that of this amount 9,475 barrels or over 95 per cent were from the Annapolis Valley. With declining totals each month, receipts continued above average in the following two months, still reflecting mainly the product of the Annapolis Valley harvest. Annapolis shipments from storage in lesser volume and at steady prices constituted most of the receipts also in December and the months from January to April. Nova Scotia 1936 crop supplies were exhausted by May, in which month and in June no apples from the province's orchards arrived in the Sydney market.

In the four months May to August this market was principally supplied by United States and New Zealand apples, and the higher prices paid for these box-packed high-grade fruit are shown in an average for these months about

TABLE 1.—APPLE RECEIPTS IN THE SYDNEY AREA BY MONTHS AND DISTRICTS OF ORIGIN, 1937

Area of origin		Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year 1937		
														Total	By percentage	Average price per barrel
															%	$
Cape Breton County.	bbl.	....	....	....	....	....	....	....	1	346	306	7	7	667	1·7	....
	$	....	....	....	....	....	....	....	2	957	846	19	19	1,843	1·3	2 76
Hants, Kings, Annapolis counties.	bbl.	1,305	3,245	3,316	985	....	....	21	1,622	9,475	6,438	5,315	2,980	34,702	87·5	....
	$	5,396	10,611	10,412	3,113	....	....	56	4,208	25,754	20,195	16,775	10,335	106,855	77·0	3 08
Halifax (mostly Annapolis Valley and foreign).	bbl.	8	12	22	....	505	67	....	1	68	26	407	8	1,124	2·9	....
	$	65	91	185	....	4,030	550	....	2	197	96	1,266	50	6,532	4·7	5 81
Other Nova Scotia...	bbl.	....	25	35	....	....	....	....	1	7	6	2	224	300	0·8	....
	$	....	197	275	....	....	....	....	2	22	19	6	773	1,294	0·9	4 31
New Brunswick......	bbl.	....	....	....	....	....	....	....	1	2	58	19	1	81	0·2	....
	$	....	....	....	....	....	....	....	3	5	260	112	2	382	0·3	4 72
Quebec (mostly foreign).	bbl.	....	7	....	1	32	82	71	37	6	10	5	....	249	0·6	....
	$	....	52	....	10	255	679	666	303	49	60	20	....	2,094	1·5	8 41
Ontario..............	bbl.	....	....	....	1	....	....	....	....	....	....	....	....	1	....	....
	$	....	....	....	3	....	....	....	....	....	....	....	....	3	....	3 00
British Columbia.....	bbl.	....	....	250	....	....	....	....	....	....	....	500	....	750	1·9	....
	$	....	....	1,965	....	....	....	....	....	....	....	3,105	....	5,070	3·7	6 76
United States........	bbl.	....	....	3	....	30	....	159	707	....	....	....	....	899	2·2	....
	$	....	....	28	....	346	....	1,480	5,833	....	....	....	....	7,687	5·6	8 55
New Zealand.........	bbl.	....	....	....	....	300	333	266	....	....	....	....	....	899	2·2	....
	$	....	....	....	....	2,394	2,750	1,798	....	....	....	....	....	6,942	5·0	7 72
Total quantity.......	bbl.	1,313	3,264	3,616	1,022	867	482	517	2,370	9,904	6,844	6,253	3,220	39,672	100·0	....
Less exported.........	bbl.	41	28	25	117	83	70	66	220	265	436	212	210	1,773	....	....
Retained for consumption.	bbl.	1,272	3,236	3,591	905	784	412	451	2,150	9,639	6,408	6,041	3,010	37,899	....	....
	%	3·4	8·5	9·4	2·4	2·1	1·1	1·2	5·7	25·4	17·0	15·9	7·9	100·0	....	....
Total value..........	$	5,461	10,754	12,787	3,401	7,025	3,979	4,000	10,353	26,984	21,476	21,303	11,179	138,702	100·0	3 50
Less exported.........	$	182	107	177	657	665	578	443	1,488	779	1,399	709	844	8,028	....	....
Retained for consumption.	$	5,279	10,647	12,610	2,744	6,360	3,401	3,557	8,865	26,205	20,077	20,594	10,335	130,674	....	....
	%	4·0	8·1	9·6	2·1	4·9	2·6	2·7	6·8	20·0	15·5	15·8	7·9	100·0	....	....
Average price per barrel.............	$	4 16	3 29	3 54	3 33	8 10	8 25	7 74	4 38	2 72	3 14	3 41	3 47	3 50	....	....

double that for the rest of the year, when Nova Scotia supplies were available. The shipments from Halifax and Quebec in these four months consisted of fruit from the United States and New Zealand, shipped by Halifax and Montreal wholesalers, full identification being lacking in the railway and steamship records from which the information was taken. British Columbia apples arrived in March and November, and realized an average price more than double that for Nova Scotia fruit, with which they competed on the basis of more select variety and high-grade box pack.

Packages.—Only 35,115 barrels of the total receipts were actually barrel-packed. The rest arrived in 13,671 packages predominantly of bushel size such as box and hamper. These figures have been converted for totalling at three such packages to the barrel. Thus shipments from all areas but Nova Scotia were almost exclusively in boxes. However, of the 36,107 packages of apples moving from the Annapolis valley to the Sydney area market, only 2,108 were hampers and boxes. The great bulk of the shipments from the Annapolis Valley, constituting 98 per cent by weight, were in standard 140-pound barrels.

Method of Transport.—Apples arrived at Sydney principally by rail freight and express, but also by water transport and truck. Water shipments, constituting 4·1 per cent, of all receipts in 1937, came from Montreal and Halifax by steamer, and from Halifax and Wolfville, N.S., by schooner, and totalled 1,638 barrels. Highway shipments were 6,176 barrels, being 15·6 per cent, and included most of the Cape Breton Island produce and some loads from the Annapolis Valley, whence volume by road was heaviest in August and September. Retailers and consumers bought direct nearly two-thirds of the trucked receipts. Rail-borne apples arriving in the Sydney area totalled 51,858 barrels, or 80 per cent of the total.

ECONOMIC LITERATURE

Proceedings of the Fifth International Conference of Agricultural Economists. Oxford University Press, Humphrey Milford London 1939. 17/6, 12/6 to members. May be obtained also from J. R. Currie, Research Department (Economics), Dartington Hall, Totnes, Devon, England.

This volume contains the papers read at the Fifth International Conference of Agricultural Economists which was held at Macdonald College, Quebec, in August, 1938, and also a transcription of the discussion at the four main sessions of the proceedings.

It is next to impossible to give in a short notice an adequate review of a volume containing some seventy papers on a variety of agricultural economic subjects. However, some indication of the subjects discussed may be given.

Papers read at the opening session centred around the subject of the social implications of economic progress in the agriculture of to-day. The first paper was given by Dr. J. F. Booth of the Department of Agriculture, Ottawa, and the second was contributed by Mr. M. L. Wilson, of the United States Department of Agriculture, Washington. Considerable discussion followed including an interesting paper by Mr. Roland D. Craig of the Dominion Forest Service on the implications of forestry in agricultural economy.

Land tenure and the social control of the use of land was discussed at the second session. The opening paper was contributed by Dr. C. von Dietze of the University of Freiburg, Germany, and the second by Mr. Henry C. Taylor, Farm Foundation, Chicago. Considerable interest was added to the discussion by the number of speakers from other countries who were able to give examples of land tenure methods and problems abroad.

Closely linked to this subject was that chosen for the third session, "Farm Labour and Social Standards." The opening papers were delivered by Mr. F. W. Von Bülow, International Labour Office, Geneva, and Mr. J. F. Duncan, International Federation of Land Workers, Scotland. The subject was discussed by representatives from England, United States of America, Germany, Czechoslovakia, Bulgaria, India, and Trinidad, British West Indies.

Dr. G. Minderhoud, Landbouwhoogeschool, Wageningen, Holland, contributed the opening paper on international trade in relation to agricultural development, and Mr. Henry A. Wallace, Secretary of Agriculture, Washington, delivered the second. Both speakers took a somewhat pessimistic view of the prospect for any immediate increase in the volume of world trade, and the discussion served to emphasize the extreme difficulties under which international trade is being carried on. International co-operation designed to place the exchange of commodities on something of a world free-trade basis would have to overcome immense problems; exchange difficulties, different national price levels and standards of living, and adjustments of surpluses, being but a few of many problems. Dr. S. Schmidt of the University of Cracow, Poland, suggested that the volume of products which east Europe sells abroad is not so much the result of high production in those countries as the very low standard of living of the rural population. "Price depend upon the weakest sellers and these particularly are the countries of South America and Eastern Europe." Secretary Wallace summed up the main points of discussion in his reply and suggested, assuming a "planned" international trade is inevitable, with regard to various governmental controls through the world: "Sooner or later efforts along these lines will have to be integrated to produce a greater amount of world prosperity than is the case now."

Papers on miscellaneous subjects of interest to the agricultural economist were: Seignorial Tenure in Canada, Some Economic Aspects of Agriculture in Argentina, Recent Changes in New Zealand's Economic Policy, Agricultural Co-operation in Canada, The Mexican Agrarian Reform, National and Local Taxation in Rural Areas, Land Tenure of the Western Slavs and Recent Agricultural Experience in Eire.

Report of Agricultural Research in Great Britain, Published by PEP, 16, Queen Anne's Gate, London, S. W. 1, 146 pages, November 1938, 8/6 net.

This volume, one of a series issued by Political and Economic Planning, is a report on agricultural research in Great Britain; its scope, administrative structure and finance, methods of making the results known to farmers, and proposal for future developments.

NOTES

Almost the entire oat crop of southwestern Saskatchewan is fed on the farms where it is produced.

The turnover of the Scottish Milk Marketing Board for December, 1938, amounted to 7,564,690 gallons. Liquid sales amounted to 84·08 per cent of the total supplies for the month.

An upward revision of almost 2 million bushels places the final estimate for the 1938-39 wheat crop at 350,010,000 bushels.

Information published in the February issue of *The Economic Annalist* relating to the "Value of Montreal Carlot Receipts of Fresh Fruits and Vegetables during 1937" was of a preliminary nature only. On the basis of information obtained from wholesalers and other agencies in Montreal since this report was prepared, it is found that the figures given were not entirely correct. In a later issue of *The Annalist,* revised figures will be presented.

The ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE ECONOMICS DIVISION
MARKETING SERVICE
DEPARTMENT OF AGRICULTURE
OTTAWA

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JUN 26 1939

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THE ECONOMIC SITUATION

The uncertain European situation continues to influence economic conditions and business men generally are loth to enter into new long-term commitments of any magnitude.

In the United States it was hoped that the arrival of spring might bring signs of a resumption of the improvement which was made last fall, but despite some increased activity in certain lines in the early part of April, general improvement has made little headway. Industrial activity increased only seasonally during March and declined in April. Building construction continues active, however, and considering the uncertainty of the times, industrial conditions on the whole are probably as satisfactory as can be expected.

A measure of the economic insecurity felt by many European countries is the continued flight of gold to the United States. Much of this represents capital which should be put to productive use elsewhere, but which is at present idle in order to ensure security.

Industrial activity in Great Britain is being maintained, where during April, there was an increased demand for coal and a rise in steel production. The shipbuilding industry is particularly active. There are indications too, of improvement in some industries not directly influenced by the rearmament program. Employment figures for April recorded improvement and among insured persons it was estimated that 108,000 more were employed during that month than in March, and 270,000 more when compared with April of last year. Retail trade during March showed an improvement over the like month a year ago.

Canada.—There has been little change in business conditions in recent months. Both the physical volume of business and industrial production, as measured by the Dominion Bureau of Statistics indexes, showed improvement during March, and this was maintained in April. Domestic exports in April were valued at $55·8 million, an increase of $4·6 million over the figure for April, 1938. Newsprint, non-monetary gold and unmanufactured nickel were the leading exports.

Wholesale prices have been remarkably steady during the last eight months. There was a relatively sharp break in wholesale commodity prices in the first week of April, but losses were more than made up by the end of the month, and the monthly wholesale price index showed a fractional gain.

Cash wheat prices moved slightly lower during March and the average for the month for No. 1 Manitoba Northern at Fort William was 59·5 cents a bushel. In the final week of April, reflecting to a considerable extent reports of crop deterioration in the United States winter wheat belt, the price of wheat at Winnipeg advanced by more than 3⅛ cents a bushel to the highest level reached

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

Year	Wholesale Prices 1926=100				Retail prices and cost of services (5)	Production (6) 1926=100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·5	57·3	74·0	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·8	112·3	114·4	82·7	141·3
1937....	84·5	84·5	85·7	84·9	83·1	122·8	120·8	49·4	157·3
1938....	78·6	73·6	69·0	81·3	83·3	112·9	114·6	64·9	144·5
1938									
Feb....	83·6	85·1	87·5	81·1	83·9	106·7	107·4	25·7	137·2
Mar....	83·1	83·0	83·8	81·7	84·2	108·8	110·2	29·7	133·4
April...	82·3	82·5	83·2	81·2	84·2	112·4	114·2	38·3	131·9
May....	80·3	77·3	74·6	81·8	84·1	110·7	112·5	41·1	157·8
June....	80·1	76·6	74·3	80·5	84·0	108·4	109·3	20·6	188·3
July....	78·6	71·5	65·9	80·8	84·1	109·1	109·8	40·3	142·7
Aug.....	76·0	64·2	54·9	79·7	84·8	110·5	110·8	89·2	139·2
Sept....	74·5	62·4	51·2	81·1	84·0	119·2	120·7	123·9	135·1
Oct....	74·1	63·8	53·6	81·0	83·8	118·6	121·1	145·6	138·8
Nov....	73·5	64·9	54·6	82·1	83·7	123·4	128·3	101·6	148·3
Dec....	73·3	64·6	53·8	82·8	83·5	115·6	118·1	85·7	146·7
1939									
Jan.....	73·2	64·8	54·7	81·7	83·1	113·0	114·2	52·0	152·8
Feb....	73·2	64·7	54·7	81·5	82·9	111·7	114·1	32·3	161·4
Mar....	73·2	65·1	54·9	82·1	82·9	113·2	115·2	48·1	166·6
April...	73·4	65·5	56·1	81·3	82·9	116·7	119·1	60·3	183·1

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1936, p. 17.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1936, p. 52, and Monthly Mimeographs 1937-39.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.
Prices and Price Indexes 1913-1936, p. 103, and Monthly Mimeographs, 1937-1939.
6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.
Yearly index numbers for 1938, subject to revision.

since mid-October, 1938. The closing price for April was 63¼ cents per bushel, or 3⅜ cents above March 31. The advance continued to 66¾ cents a bushel on May 10 and declined somewhat thereafter. On May 22, cash wheat was quoted at 64½ cents a bushel.

Live stock prices which on the average were higher in March lost some of this gain during April, but all classes did not show a decline. Calf and hog prices declined about 6 per cent during April, the latter being influenced mainly by price reduction in the British bacon markets.

There was no change in the Dominion Bureau of Statistics index of retail prices, rents and cost of services for April. This index has now been at the same figure since February.

SOME ASPECTS OF LAND SETTLEMENT IN NORTHEASTERN ONTARIO, 1936-1937

A. Gosselin and G. P. Boucher

This article is the fourth of a series on land settlement in northwestern Quebec and northeastern Ontario. Articles dealing with the same subject have appeared in the last three issues of the *Economic Annalist.*

The present discussion is concerned with the expenses incurred by the 91 settlers interviewed in the northern Ontario Clay Belt.

Cost of Transportation.—Figures on the cost of transportation were obtained only from settlers who had been established in the New Liskeard and Cochrane districts since 1928. The average cost per settler was $37 in the New Liskeard district and $92 per settler in the Cochrane district. The higher cost for Cochrane is due mainly to the fact that this district is about 150 miles north of New Liskeard.

Table 1.—Cost of Transportation to Colonization Districts of the Settler, His Family, Household Goods and Farm Machinery, on 91 Farms in Certain Colonization Districts of Northeastern Ontario

Locality	Number of records	Average cost per settler
		$
New Liskeard	22	37
Cochrane	15	92
Total and averages	37	59

Price Paid for Farms.—As stated in table 2 of the article in the *Economic Annalist* for April, the average price paid by the 37 settlers in the new colonies of New Liskeard and Cochrane districts was $207 per farm or $2.21 per acre, while in the old colonies the average price paid by 54 settlers was $2,171 per farm or $11.52 per acre.

Farm Investment.—The average investment in farm buildings and fences, household equipment, farm equipment and live stock on the farms visited in the new colonies averaged $935. Of this amount $401 represents the actual value for buildings and fences, $252 for live stock, $170 for household equipment, and $111 for farm equipment.

In the old colonies the total farm investment averaged $3,860 for the 54 farms visited. Of this amount $1,939 is for buildings and fences, $856 for live stock, $848 for farm equipment and $217 for household equipment. The farmers visited in the Val Gagné district had the largest total farm investment with $4,370. The Cochrane district comes next with $4,194. These figures on capital investment represent not only the cash outlay made by settlers since their establishment, but include also the actual value of the household equipment, the farm equipment and the live stock they brought with them, as well as the natural

Table 2.—Average Investment in Farm Buildings and Fences, Household Equipment, Farm Equipment and Live Stock on 91 Farms in Certain Colonization Districts of Northeastern Ontario, 1937

Locality	Number of records	Buildings and fences	Household equipment	Farm equipment	Live stock	Total
		$	$	$	$	$
New Colonies—						
New Liskeard	22	349	188	70	249	856
Cochrane	15	477	145	171	257	1,050
Total and averages	37	401	171	111	252	935
Old Colonies—						
New Liskeard	13	1,702	292	755	696	3,445
Val Gagné	8	2,247	209	1,091	823	4,370
Cochrane	23	2,090	189	911	1,004	4,194
Kapuskasing	10	1,656	190	629	748	3,223
Total and averages	54	1,939	217	848	856	3,860

increase in live stock numbers. Although this latter cannot be considered an actual outlay, it contributes materially towards the increase in the value of live stock on hand.

Farm Expenditures.—The amount spent for seed, feed, taxes and miscellaneous farm expenses averaged $89 for the year 1936-37 in the new colonies. The largest item of expense was for feed. The cost of feed is usually high in the new colonies, and settlers have to depend mostly on outside sources for their supply. In the old colonies total farm expenditures averaged $280. Of this amount $121 was for miscellaneous expenses, $76 for live stock feed, $54 for taxes and $29 for seed. The amount spent for feed was much higher in both new and old colonies of the Cochrane district than in the New Liskeard, Val Gagné and Kapuskasing districts.

Table 3.—Average Farm Expenditures on 91 Farms in Certain Colonization Districts of Northeastern Ontario, 1936-37

Locality	Number of records	Seed	Feed	Taxes	Miscellaneous	Total
		$	$	$	$	$
New Colonies—						
New Liskeard	22	12	22	14	17	64
Cochrane	15	27	65	15	18	125
Total and averages	37	18	39	15	17	89
Old Colonies—						
New Liskeard	13	13	58	46	150	367
Val Gagné	8	48	38	33	29	148
Cochrane	23	32	115	71	123	341
Kapuskasing	10	29	39	45	149	262
Total and averages	54	29	76	54	121	280

Living Expenses.—In table 4 are shown the details of cash family expenses for new and old colonies. These expenses averaged $242 in the new colonies and $330 in the old ones. Cash disbursements for food constituted the largest item of expense in both new and old colonies. The cost for clothing came next and averaged $55 in the new colonies and $107 in the old colonies.

The number of persons in each family averaged 4·1 in the new colonies and 5·6 in the old ones. As revenue was smaller in the new colonies, living expenses had to be curtailed accordingly. It is obvious that a family of four or six spending usually from $200 to $400 a year for food, clothing, medical attention and other miscellaneous household items, is somewhat restricted as to its purchases. Necessities must take precedence over luxuries.

TABLE 4.—AVERAGE LIVING EXPENSES IN 91 FAMILIES IN CERTAIN COLONIZATION DISTRICTS OF NORTHEASTERN ONTARIO, 1936-37

Locality	Number of records	Average number of persons per family			Average expenditure				
		Adults	Children	Total	Food	Clothing	Health	Miscellaneous	Total
					$	$	$	$	$
New Colonies—									
New Liskeard	22	2·3	2·0	4·3	162	44	2	2	210
Cochrane	15	2·7	1·2	3·9	199	71	13	5	288
	37	2·4	1·7	4·1	177	55	7	3	242
Old Colonies—									
New Liskeard	13	2·6	2·0	4·6	186	100	33	35	354
Val Gagné	8	3·4	2·4	5·8	161	96	71	24	352
Cochrane	23	3·1	2·7	5·8	188	111	14	10	323
Kapuskasing	10	3·6	2·8	6·4	149	115	20	16	300
Total and average	54	3·1	2·5	5·6	176	107	28	19	330

Financial Obligations.—Under this heading are included all debts to farm implement companies, local stores, private lenders and government loan boards, etc. The unpaid balance of settlers' loans from the Northern Development Board or farm loans from the Agricultural Development Board constitutes the largest part of the financial obligations of the settlers reporting debts. The average debt per farm was $169 in the new colonies and $734 in the old ones. Of the 37 farmers visited in the new colonies 33 reported debts averaging $190, and of the 54 farmers in the old colonies, 42 had debts averaging $943. In Val Gagné, 3 farmers out of 8 reported debts averaging only $218. The average financial obligations of the farmers visited in Val Gagné were much lower than in any of the old colonies.

TABLE 5.—FINANCIAL OBLIGATIONS ON 91 FARMS IN CERTAIN COLONIZATION DISTRICTS OF NORTHEASTERN ONTARIO, 1937

Locality	Number of records	Average debt per farm	Number of farms reporting debts	Average debt per farm reporting
		$		$
New Colonies—				
New Liskeard	22	119	20	131
Cochrane	15	243	13	280
Total and average	37	169	33	190
Old Colonies—				
New Liskeard	13	799	9	1,154
Val Gagné	8	82	3	218
Cochrane	23	943	21	1,032
Kapuskasing	10	690	9	766
	54	734	42	943

SUMMARY OF WHOLESALE MARKETING OF FRUITS AND VEGETABLES IN THE CITY OF MONTREAL, 1937

B. A. Campbell

Fresh fruits and vegetables valued at approximately $16,631,000 were purchased by the different marketing agencies in Montreal in 1937. Of this total, produce valued at more than $3,232,000 was shipped to country points by all agencies, leaving fresh fruits and vegetables valued at almost $13,399,000 for resale in Montreal. This estimated value is based on a laid down cost in Montreal and does not include distribution costs in Montreal or inter-agency profit.

The summary shows the marketing agencies handling the produce directly, the origin, the type of produce and the methods by which these fresh fruits and vegetables were transported to the Montreal market.

Wholesalers and jobbers handled over three-quarters (75·6 per cent) of all fresh fruits and vegetables which came into Montreal in 1937 while less than one-fifth (18·1 per cent) was sold on the public markets.

Quebec produce made up more than one-quarter (28·3 per cent) of total receipts while other Canadian provinces were responsible for one-sixth (16·7 per cent) of the total.

Fruits of all kinds were valued at almost $8,586,000, vegetables at $5,809,000 and potatoes at slightly more than $2,236,000.

Almost 70 per cent of the total produce arrived in full car lots either by rail or boat, while truck arrivals amounted to slightly more than 28 per cent.

Summary of Wholesale Marketing of Fresh Fruits and Vegetables in Montreal, 1937

(Value based on laid down cost in Montreal)

	$	%
Marketing Agencies—		
Purchases of wholesalers and jobbers	12,564,643	75·6
Sales on public markets	3,008,700	18·1
Purchases, except those from wholesalers and on public markets, of—		
Independent retail stores	346,853	2·1
Chain stores	268,479	1·6
Truckers and peddlers	236,800	1·4
Hotels, restaurants, institutions, railways and steamship companies	205,749	1·2
Total	16,631,224	100·0
Origin—		
Quebec	4,701,209	28·3
Other Canadian provinces	2,786,603	16·7
Other countries	9,143,412	55·0
Total	16,631,224	100·0
Commodity Groups—		
Fruit	8,585,931	51·6
Vegetables	5,808,994	34·9
Potatoes	2,236,299	13·5
Total	16,631,224	100·0
Method of Transportation—		
Carload (rail or boat)	11,624,868	69·9
Less than carlot (rail or boat)	310,231	1·9
Motor truck	4,696,125	28·2
Total	16,631,224	100·0

FARMERS' BUSINESS ORGANIZATIONS IN CANADA, 1937-1938

W. F. Chown

Canadian farmers have been accustomed to the idea of mutual assistance since the days of early settlement as shown by barn raisings, beef rings, threshing syndicates and the exchange of labour for various types of farm work. Isolated groups have been in business for some time but in the last thirty years the number of such organizations has increased rapidly. Available statistics for 1937 show 1,217 active farmers' business organizations with a total turnover of $155,080,435.

These associations have been organized by farmers and are operating for their mutual benefit. They have been brought into being in order to obtain better price terms through increased bargaining power or to provide some service not presently available or to improve some existing service considered inadequate.

In Canada the expansion of co-operative activity has taken place most rapidly and to the greatest degree in the marketing field. Presumably this field has offered the greatest opportunity to effect savings and to provide needed services. Collective action has also made possible the pooling of the proceeds received from the sale of agricultural products of the same grade and quality, and the return to the farmers of an average price for such products. This has frequently implied better grading and preparation for market while the products are still in control of the producers than would otherwise have been the case. The value of farm products marketed amounted to $134,493,746 for the crop year 1937-1938.

Many associations formed primarily for marketing have found it possible to render an additional service to their members by utilizing the buying power already mobilized for the purpose of purchasing supplies needed on the farm. For example, fruit marketing associations may buy fertilizer, spray material, barrels, boxes, flour and feed and general merchandise for their fruit growing members. A number of associations have been formed primarily for the purpose of buying supplies, usually bulk commodities, and some are operating stores carrying a full line of general merchandise. Over half of this type operate in the Prairie Provinces and the principal commodities handled are gasoline, tractor fuel, and other petroleum products, coal and wood and binder twine. Sales of supplies and merchandise amounted to $20,091,893 for the crop year 1937-1938 or about 15 per cent of the value of farm products marketed.

In order to increase effectiveness, sales agencies have been formed on a regional basis or Dominion-wide commodity basis; the Canadian Co-operative Wool Growers Limited and the Canadian National Silver Fox Breeders' Association, for example. Wholesale societies which consolidate the buying power of the local associations and augment the benefits to be obtained from quantity buying are also operating in most of the provinces. The United Farmers of Ontario Limited and the Co-opérative Fedérée de Québec combine the functions of sales agency and wholesaler for their affiliated local associations.

Fruits, vegetables, grain, seed, eggs, poultry, wool and furs are usually graded and otherwise prepared for market before being offered for sale. Elevators, stockyards, common and cold storage warehouses and chick hatcheries are owned and operated co-operatively. Butter and cheese are manufactured, chicken and apple products are canned and commercial feeds and spray materials are prepared in co-operative plants. The First Co-operative Packers of Ontario Limited, process hogs into bacon and other pork products. The Consumers' Refineries Co-operative Association Limited, Regina, refine crude oil into gasoline, distillate and other petroleum products.

In 1908 the Nova Scotia Legislature passed the Farmers' Fruit Produce and Warehouse Associations Act and in the same year the Quebec Legislature enacted the Co-operative Agricultural Associations Act. Since that time each province has provided for the incorporation of co-operative associations by suitable legislation. Since 1932, five provinces have enacted new co-operative associations acts and in three provinces there have been extensive amendments or consolidations. Such legislation varies between provinces but in most cases interest on capital is limited and it is required that profits shall be distributed to members on the basis of patronage. There is no Dominion Co-operative Act but several farmers' organizations have been incorporated under the Dominion Companies Act. Others have been incorporated by special acts of the Dominion Parliament and provincial legislatures. About 90 per cent of the associations reporting are incorporated by one or other of these means but several hundred have not achieved such status and are buying or shipping clubs or circles.

The provincial governments have set up, usually within the department of agriculture and in connection with marketing, machinery to further the cause of co-operation. The Agricultural Economics Division was established within the Dominion Department of Agriculture in 1929 and one phase of its work was the study of the farmers' co-operative movement. Under joint agreements with the provincial governments a survey of existing organizations was undertaken in 1931 and has been maintained annually since that date.

The number of associations reporting to the Economic Division has shown an increase in each of the seven years since the survey was started. The total business for the year increased from 1932-1933 to a peak in 1936-1937 of $173,927,117. The total business for the year now reported, 1937-38, amounts to $155,080,435, a decrease of $18,846,682 from the previous year. In 1937 Saskatchewan suffered extremely from drought and the estimated value of grain handled by the Saskatchewan Co-operative Wheat Producers Limited dropped from $56 million in 1936-1937 to $15 million in 1937-1938, a decrease of $41 million. Thus, the business of other co-operatives increased by about $22 million. A scrutiny of the results of individual associations reveals that this gain was quite widespread and that a good business year was enjoyed by most organizations.

In addition to the trading associations described above and for which statistics are given in the accompanying table, farmers are interested in other forms of co-operative activity.

A mutual fire insurance company was formed in Ontario as early as 1836 and several still functioning as farmers' mutuals were organized between 1850 and 1860. To-day there are about 350 such companies with net assets of over $5 million and insurance at risk amounting to over one billion dollars. These have a long history of successful operation behind them.

Approximaely 62,000 or 5 per cent of the telephones in Canada are operated by rural co-operative companies in which there is a total investment of $19,193,394.

Inspired by the example of Quebec, six other provinces have passed co-operative credit union legislation within recent years, and societies have been formed for the purpose of making credit available to members. A number of these have been formed in rural communities.

Societies have been formed by fishermen on both coasts for the purpose of canning and marketing fish and buying gear on the co-operative plan. As many of the members of these societies are also farmers, mention may well be made of this activity in a summary of agricultural co-operation. During 1937, sixteen fishermen's co-operative societies in Nova Scotia with a membership of 760 did business amounting to $251,114 and had on hand at the end of the year assets amounting to $67,976.

Farmers' Business Organizations in Canada, 1937-38[1]

Provincial Grouping

Province or function	Associations	Places of business	Shareholders	Patrons	Total assets	Value of plant	General liabilities	Paid-up share capital	Reserves and surplus	Sales of farm products	Sales of supplies	Total business including other revenue
	No.	No.	No.	No.	$	$	$	$	$	$	$	$
British Columbia	54	61	12,915	16,621	4,100,677	1,308,470	1,574,676	1,557,040	968,961	8,062,848	2,032,840	10,175,420
Alberta	37	537	61,810	70,691	15,476,156	5,725,108	5,346,227	419,975	9,709,954	33,293,509	885,240	34,251,273
Saskatchewan	327	1,429	170,381	162,678	38,239,997	16,190,716	12,660,128	1,227,641	24,352,228	21,107,445	3,582,654	24,810,344
Manitoba	38	334	42,436	46,328	4,612,137	2,483,480	3,793,159	283,230	535,748	19,130,864	895,128	20,078,430
Ontario	145	173	35,937	44,150	3,497,066	1,369,954	1,379,714	1,061,956	1,055,396	16,655,664	4,136,008	20,836,171
Quebec	451	891	50,355	39,980	5,416,519	2,054,097	3,395,007	907,772	1,113,740	11,160,106	4,392,800	15,641,666
New Brunswick	45	68	3,808	10,004	404,439	124,647	286,773	93,390	24,276	1,143,339	521,667	1,666,837
Nova Scotia	99	99	7,444	11,802	1,792,095	655,889	1,003,219	395,859	393,017	1,745,205	1,732,176	3,499,358
Prince Edward Island	15	70	10,291	11,003	74,262	32,069	25,073	10,800	38,389	1,197,784	170,032	1,370,553
Interprovincial	6	463	40,152	49,680	9,527,349	6,625,554	3,959,631	3,307,728	2,259,990	20,996,982	1,743,348	22,750,383
Totals, Canada	1,217	4,125	435,529	462,937	83,140,697	36,569,984	33,423,607	9,265,391	40,451,699	134,493,746	20,091,893	155,080,435

Functional and Commodity Grouping

Province or function	Associations	Places of business	Shareholders	Patrons	Total assets	Value of plant	General liabilities	Paid-up share capital	Reserves and surplus	Sales of farm products	Sales of supplies	Total business including other revenue
Marketing—												
Dairy products	166	593	58,672	77,824	5,169,009	2,397,338	2,172,812	2,140,132	856,065	19,004,148	318,328	19,420,505
Fruits and vegetables	94	128	11,066	14,007	4,181,551	1,861,155	2,320,579	727,389	1,133,583	8,278,176	1,708,058	10,077,112
Grain and seed	36	2,155	190,593	190,744	63,226,753	29,474,424	23,995,379	3,454,955	35,776,419	80,888,969	1,608,762	82,522,611
Livestock	177	206	59,430	54,225	1,114,958	563,234	335,695	651,281	127,982	18,913,484	465,710	19,425,605
Poultry	61	286	32,342	25,387	442,504	109,884	155,068	60,269	227,167	3,146,091	80,272	3,236,173
Honey	3	3	1,401	725	168,554	2,779	126,761	30,139	11,654	202,873	....	202,873
Maple sugar	2	2	1,982	1,982	321,155	248,069	92,934	57,762	170,459	668,243	....	668,243
Tobacco	5	5	979	753	465,754	147,019	68,326	80,719	316,709	511,581	....	513,410
Wool	1	17	8,000	7,000	333,593	69,725	162,833	117,140	53,620	649,183	62,819	713,603
Fur	2	2	1,100	4,950	42,479	4,881	4,540	....	37,939	1,638,865	22,742	1,662,552
Miscellaneous[2]	7	19	20,425	20,425	3,535,526	692,193	2,617,819	620,780	296,927	161,379	....	162,038
Totals, Marketing	554	3,416	385,990	398,022	79,001,836	35,570,701	32,052,746	7,940,566	39,008,524	134,062,992	4,266,691	138,604,725
Purchasing	646	692	49,013	64,381	3,953,225	907,342	1,293,053	1,236,192	1,423,980	430,754	15,412,253	16,050,600
Miscellaneous	17	17	526	534	185,636	91,941	77,808	88,633	19,195	....	412,949	425,110
Totals, Canada	1,217	4,125	435,529	462,937	83,140,697	36,569,984	33,423,607	9,265,391	40,451,699	134,493,746	20,091,893	155,080,435

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[1] Not including co-operative insurance companies, credit societies, telephone co-operatives and farmers' institutes.

[2] Includes Assets and Liabilities of United Farmers of Ontario Ltd. and Co-opérative Fédérée de Québec but business has been distributed according to commodity groupings.

RETAILER AND CONSUMER PREFERENCE FOR FARM PRODUCTS IN THE SYDNEY MARKET AREA

J. E. O'Meara

As part of the investigation of marketing conditions in the Sydney area, an attempt was made to determine the requirements of the retail trade as to size, colour, and package of various farm products. The Sydney market is undoubtedly one of the most important in the Maritime Provinces and it was felt that this information would be of value not only to local producers but to growers and shippers in other areas who are now, or may be in the future, supplying that market. To this end 114 retails stores were visited and managers and owners supplied enumerators with the desired information. This number represents 32·4 per cent of all retail food stores in the area and includes all chain stores, co-operatives, and an adequate cross-section of all independent stores in the area. The results were tabulated and are presented in Table 1.

Since it is difficult to present the complete picture in tabular form, some elaboration is necessary because in the table some very valid and valuable minority opinion has been disregarded in favour of the majority. It must also be remembered that the retailer in giving the information as to size and colour of the various commodities did so with the desires of the consumer in mind. When discussing package he did so from his own point of view.

The table shows that preference as to package for corn is bags. This, however, may be qualified by the information that almost as many were definitely in favour of some other form of ventilated package which would lessen the damage to the corn from heating, which they claimed was caused by packing in bags. Although unable to suggest a pack which would eliminate this damage they were quite unanimous in their desire for a change in the present practice. Similar objections were made by equally large minority groups regarding the bag pack for beets, green tomatoes and cucumbers. Their desire for a change was based on a claim that the commodity packed in this way required more careful handling than it generally received in order to prevent crushing and damage to the contents. There were a few objections to the half barrel pack for Annapolis Valley pears and the suggested substitute was the hamper or bushel basket. Local Damson plums from the Cape North district now being packed in barrels exhibited some damage due to that type of package and many dealers have discontinued handling the local plums for that reason.

The commodities listed in the table are those which are commonly sold in the area. Where items such as asparagus and broccoli are missing, it is because there is practically no demand for these commodities and as a result the retailer was not in a position to comment on consumer preference. Included in the list, however, are some products for which there is little demand. These are spinach, radishes, green peas, green onions, blueberries, and peaches. This may be explained by the fact that a great many people have small vegetable gardens of their own. Blueberries are not sold to any great extent because of the proximity of large barrens of that fruit in the area. Apples and pears are much more popular as a dessert fruit than are peaches. There is also little demand for honey, what little there is being sold in bottles or tins and very seldom in combs. Maple products also have very little sale.

Information as to consumer preference in size and grade shows nothing unusual. Differences were, however, noted within the area itself. For example, preference in grapes was equally divided between Tokays and Ontario blues,

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Preliminary report subject to revision.

Table 1.—Characteristics of Retailers' Requirements of Various Products in the Sydney Market Area

Commodity	Size	Colour	Package
Vegetables—			
Rhubarb	Medium	Strawberry	Barrel.
Spinach	Medium, large		Hamper.
Radishes	Medium		Bunched—hampers, boxes or crates.
Field lettuce	Large	Green	Boxed.
Forced lettuce	Large		Crates (3 to 6 dozen).
Beets	Medium, small		Bunched (5 to 8)—hampers.
Beets (bulk)	Medium		Bags.
Carrots	Medium, large		Bunched (5 to 8)—hampers.
Carrots (bulk)	Medium, large		Bags.
Parsnips	Medium, large		Bags.
Green peas	Mature		No preference.
Green beans	Medium	Yellow	Hampers, bags or baskets.
Green onions	Medium		Baskets.
Onions (dry)	Ontario No. 1	Yellow	100 lb. open mesh bags.
Green tomatoes	Medium	Very green	No preference.
Ripe tomatoes	Medium		11 and 6 quart baskets.
Hothouse tomatoes	Medium		Cartons and 11 quart baskets.
Imported tomatoes	Medium		25 lb. boxes.
Cucumbers	No. 1	Solid green	Bags.
Corn	Large	Yellow Bantam	Bags.
Cabbage	Medium (3 to 4 lbs.)	Green	50 or 100 lb. bags.
Cauliflower	Medium (1½ to 3 lbs.)	Well-bleached	Crates or boxes.
Celery	Large	Well-bleached	Paper-wrapped in crates.
Melons	Large		Crates.
Turnips	Medium (2 to 2½ lbs.)	Purple top	Bags.
Potatoes	Canada No. 1		90 lb. bags (P.E.I.)
Fruit—			
Strawberries	Large		32 quart crate.
Raspberries	Large		24 pint crate.
Blueberries	Large		Quart box.
Cranberries	Large		25 lb. box.
Foxberries		Deep red	Wet in barrels.
Grapes	Large	Blue	Baskets and crates.
Cherries	Large	Deep red	Quart box or 6-quart basket.
Plums	Large	Green and blue	11 quart baskets.
Pears	Large and medium		Hampers, 11 qt. baskets and ½ bbls.
Peaches	No. 1		6 or 11 quart baskets.
Apples	2½" up		Barrel.
Poultry, etc.—			
Chickens and hens	4– 6 lbs.		Crates.
Turkeys	8–12 lbs.		Crates.
Ducks	4– 6 lbs.		Crates.
Geese	8–12 lbs.		Crates.
Other fowl	4– 6 lbs.		Crates.
Eggs	Large		30 dozen crates.
Honey	12 oz. and 2 lb.	Light	Bottles and tins.
Maple Sugar	1 lb. blocks	Light	
Maple Syrup	16 oz.		Bottles.

yet the consumer on the north side of the harbour, which includes the towns of North Sydney, Sydney Mines and Florence, definitely favours Ontario blues with very little demand for Tokays being noted. There is also quite a distinct preference within the area with regard to the colour of eggs. Records taken in the town of Glace Bay and district and the town of New Waterford show that the consumer there prefers white eggs. A tendency in this direction was noted in the uptown stores of the city of Sydney, while the consumer in the North Sydney district towns had apparently no preference. These two instances are the only major points of difference in preference within the area.

Direct Purchases.—While the above information was being gathered it was found that of the fresh fruit, vegetables, poultry, and poultry products handled by these retailers, a considerable quantity was bought at the store door from local producers and truckers from distant points on Cape Breton Island and the Nova Scotia mainland. The volume of produce and the average prices paid to the producers and truckers for the various commodities purchased in this way during 1937 are shown in Table 2.

TABLE 2.—PRELIMINARY ESTIMATE* OF PURCHASES OF FARM PRODUCTS BY ALL FOOD STORES IN THE SYDNEY, N.S., MARKET AREA DIRECT FROM PRODUCERS AND TRUCKERS IN 1937

(Purchases from Wholesalers and receipts by rail and boat are not included)

Commodity	Cape Breton County			Other Nova Scotia Points		
	Quantity	Value	Average price	Quantity	Value	Average price
		$	$ cts.		$	$ cts.
Vegetables—						
Rhubarb........lb.	253,053	5,827	2	....	....	....
Spinach........“	3,486	251	7	....	....	....
Radishes........doz. bunches	508	206	42	....	....	....
Lettuce........“	7,536	3,252	45	....	....	....
Lettuce (forced)........doz. heads	82	46	73	....	....	....
Beets........doz. bunches	7,021	3,965	57	....	....	....
Beets (bulk)........lb.	142,576	3,077	2	....	....	....
Carrots........doz. bunches	9,109	5,040	55	....	....	....
Carrots (bulk)........lb.	422,482	9,666	2	....	....	....
Parsnips........doz. bunches	1,030	649	62	....	....	....
Parsnips (bulk)........lb.	65,036	1,749	3	....	....	....
Green peas........“	10,244	633	6	....	....	....
Green beans........“	54,879	3,358	6	....	....	....
Green onions........doz bunches	69	41	61	....	....	....
Green tomatoes........lb.	180,432	3,083	2	....	....	....
Ripe tomatoes........“	70,594	3,455	5	....	....	....
Hothouse tomatoes...11-qt. baskets.	1,816	5,368	2 93	....	....	....
Cucumbers........doz.	21,275	5,137	23	....	....	....
Sweet corn........“	19,958	3,986	20	....	....	....
Cabbage........lb.	854,556	15,072	2	....	....	....
Cauliflower........“	23,600	1,733	7	....	....	....
Celery........doz.	838	1,284	1 54		....	....
Turnips........lb.	1,834,308	20,358	1	....	....	....
Squash and pumpkin........“	34,758	866	2	....	....	....
Leeks........doz.	21	17	80	....	....	....
Savory........“	8	3	33	....	....	....
Parsley........“	8	5	66	....	....	....
Other vegetables........lb.	82,230	1,170	14	....	....	....
Total vegetables........	....	99,297	....	....	....	....
Potatoes—						
Early potatoes........bag	29,059	31,431	1 07	108	104	96
Late potatoes........“	4,785	4,425	93	....	....	....
Total........	....	35,856	....	....	104	....
Fruit—						
Strawberries........32-qt. crate.	3,663	14,062	3 84	107	435	4 02
Raspberries........“	189	726	3 81	....	....	....
Cranberries........qt.	26,033	1,688	6	8,409	1,089	13
Cherries........“	880	125	14	169	26	16
Blackberries........“	198	38	19	....	....	....
Red currants........“	27	3	12	....	....	....
Foxberries........“	3,380	334	10	21,561	1,470	5
Plums........bkt.	....	....	....	260	147	52
Blueberries........qt.	14,759	1,639	11	....	....	....
Pears........half bbl..	....	....	....	419	1,114	2 66
Apples........bbl.	....	....	....	10,469	33,732	3 17
Crabapples........lb.	9,154	239	25	....	....	....
Total fruit........	....	18,854	....	....	38,013	....

TABLE 2.—PRELIMINARY ESTIMATE* OF PURCHASES OF FARM PRODUCTS BY ALL FOOD STORES IN THE SYDNEY, N.S., MARKET AREA DIRECT FROM PRODUCERS AND TRUCKERS IN 1937—*Conc.*

Commodity	Cape Breton County			Other Nova Scotia Points		
	Quantity	Value	Average price	Quantity	Value	Average price
		$	$ cts.		$	$ cts.
Meats—						
Poultry lb.	19,234	3,662	19			
Lamb "	286,689	42,536	15	30,014	4,520	15
Veal "	81,526	6,934	8	29,749	2,380	8
Pork "	92,385	12,461	13			
Beef "	18,939	1,776	9			
Liver "	4,302	496	11			
Tongue "	481	50	10			
Other meats "	1,419	117	8			
Eggs doz.	105,528	33,116	31			
Hay tons	$2\frac{1}{2}$	45	16 00			
Straw tons	$12\frac{1}{2}$	129	10 00			
Total, eggs, meat and other products		101,322			6,900	
Total, all commodities		255,329			45,017	

*Based on records from 114 of the 352 food stores in the Sydney area.

It will be observed that the vegetables from Cape Breton county purchased by retailers in the Sydney market area direct from producers and truckers had a value of almost $100,000. Purchases of Cape Breton county potatoes were valued at about $35,850, while purchases of fruit from Cape Breton county amounted to approximately $18,850. Fruit purchased from other Nova Scotia areas was worth $38,000. Purchases of eggs, meat, hay and straw produced in Cape Breton county had a value exceeding $100,000 and from other Nova Scotia points the value of such products was $6,900. The total value, therefore, of products of Cape Breton county origin was approximately $255,330 and products from other Nova Scotia points were valued at about $45,000.

FIVE YEARS OF MILK MARKETING IN ENGLAND AND WALES REVIEWED

A five-year review of the Milk Marketing Scheme in England has recently been published by the Milk Marketing Board, London. The Marketing Scheme has been in operation since October, 1933, and was the outcome of the unstable conditions in the dairy industry, particularly since 1929.

Milk prices were controlled during part of the War years, actually from December, 1916, to April, 1920, and in the years immediately thereafter various abortive attempts were made at organized bargaining. In 1922 price agreements were arranged by the Permanent Joint Milk Committee representing farmers' and dealers' organizations. These were reasonably satisfactory until 1929 which year marked the beginning of the fall in the price of manufactured dairy products and the widening margin between them and fluid milk prices.

The first problem facing the Board was to secure a measure of stability in the industry and to restore the confidence of the producers. This was achieved by providing a market for all milk and by guaranteeing regular monthly payments. The next objective was to improve producer's returns by lifting the value of all milk above depression levels. The third step was the development of markets. The Board concentrated on an expansion of liquid milk sales as the only remunerative outlet for home milk supplies. A regular supply of milk is necessary to meet the month by month demand, and to take care of the day by day fluctuations, a substantial balancing margin must be maintained. Milk not supplied to the liquid market is manufactured and is sold at prices related to its utilization. In order that the surplus milk should be used for the most remunerative branches of manufacturing, the most profitable outlets have been developed. It was realized that this policy of expansion could proceed smoothly only with an improvement in the quality of the milk supply. To improve the demand, the public must have confidence in the purity of the product. In establishing a high standard of milk quality, the producers were involved in certain increased costs. In return, they received compensation through the payment of bonuses to accredited producers.

The central principle, on which the Scheme operates, is that the proceeds of all sales of milk, whether sold as fluid milk or used eventually in some manufactured form, are collected monthly. These funds are pooled and divided by the number of gallons of milk delivered by the producers. The resultant figure is the pool price per gallon for that month. The fact that the pool price is lower than the fluid milk price is caused, mainly, by the quantity of milk which must be manufactured and the lower returns credited to the pool from milk used in this way. To cover the costs of administration, a levy is made on every gallon of milk sold. As the realization from the sales of fluid milk form about 83 per cent of the pool from which producers are paid, it is evident that the level of the Regional liquid milk prices becomes an important factor. In many cases, the buyer arranges the means of transporting the milk and, in the first years of the Scheme, it was clear that some buyers were making excessive deductions for hauling. Up to the present time, considerable progress has been made in reducing the charges of transporting milk direct from farm to dairy. When milk is hauled to large consuming areas, such as London and other large cities, much of it is now transported in tanks from the local country milk depots. Unfortunately, little of the consequent saving in costs can be passed on to the producer.

The contract between buyer and producer is the pivot of the whole machinery in the marketing of milk, and operates from the first of October in each year, regulating an annual output valued at nearly 50 million pounds sterling. In the early years of the Scheme it was found that the contracts were hardly flexible enough; some buyers had a large surplus of milk for the "fluid" trade and had to market this surplus in manufactured form, while other buyers had not sufficient to supply the "fluid" trade. In 1937 a plan was organized to allocate supplies to the best advantage by the transfer, when necessary, of producer's contracts among buyers and in this way assure the highest possible price to the producer. This action has tended toward a more even development of the industry.

The policy of the Board has been to expand liquid sales to the utmost and to this end, the main marketing plans have been supplemented by publicity, advertising and research. This includes press and poster advertising, educational and propaganda work, and an endeavour to introduce the milk drinking habit to both children and adults. Even with the additional demand, these efforts have created a daily per capita consumption of only 0.42 pints for the year 1937-38. There is every indication, however, that this policy of active publicity brings increased consumption, and the financial advantages to the producer and distributor alike, far outweigh the costs involved. Research has also been thoroughly considered. Some of the specific investigations into the problems of the industry are: composition and nutritive value of milk; feeding of dairy cows; rapid methods of estimating the cleanliness of milk, and detecting the presence of T. B.; investigations into contagious abortion in dairy cattle.

The Board, at the commencement of the Scheme, realized that milk prices were so low as to be unremunerative and they have endeavoured, since, to raise them so that the producer's returns can be more closely related to costs of production. To a certain extent, they have succeeded but, unfortunately, costs on farms have also increased. Indeed, items such as feeding stuffs have risen much higher, relatively, than the improvement in liquid milk prices. In consultations with the distributors on the question of the price of milk, the Board had no authoritative records of the cost involved in producing the product. This lack of information handicapped them in their efforts of secure for the producer his costs plus a reasonable profit.

In 1934, a large scale investigation into costs of production was initiated and the preliminary results show the various cost items relating to milk production. In particular, they demonstrate the over-riding influence of the costs of feed and labour and the gradual rise in production costs due, mainly, to the increase in the price of these two important factors. This work is to continue until 1940 when figures will be available for six complete years.

PURCHASES OF INDEPENDENT AND CHAIN RETAIL STORES IN MONTREAL, 1937

The value of fresh fruits and vegetables purchased by independent retail stores in Montreal during 1937 was approximately $7,400,000. Similar produce purchased by four chain stores was valued at $2,595,000 (Table 1). Almost seventy-two per cent of the independent retail store purchases were obtained from wholesalers and jobbers, while almost ninety per cent of chain store purchases were obtained from that source.

TABLE 1.—ORIGIN OF FRESH FRUITS AND VEGETABLES PURCHASED BY INDEPENDENT RETAIL STORES AND FOUR CHAIN STORES IN MONTREAL, 1937

Source of purchases	Independent retail stores	Five Chain stores (1)	Total purchases
	$	$	$
Wholesalers and jobbers	5,321,800	(2) 2,326,553	7,648,353
Public markets	1,652,681	....	1,652,681
Growers at store door	283,385	268,479	551,864
Growers at farm	63,468	....	63,468
Truckers at store door	59,557	....	59,557
Other agencies	19,688	....	19,688
Total purchases	7,400,579	2,595,032	9,995,611
Percentage	74%	26%	100·0%

(1) Atlantic and Pacific Tea Co.
Dominion Stores.
Steinberg's Service Stores.
Thrift Stores.
Stop and Shop.

(2) Includes some imported produce purchased directly by one chain store.

NOTES

The gross value of commodities produced on Canadian farms during 1938 is estimated by the Dominion Bureau of Statistics at $1,020,217,000.

Tobacco production on Canadian farms during 1938 was the highest on record with an estimated value of $20 million.

ECONOMIC LITERATURE

Co-operation at Home and Abroad, Vol. II, 1908-1938, C. R. Fay, M.A., D.Sc., published by P. S. King & Son Ltd., London, 1939, 526 pages and index. Price 18/0 net.

The fact that this writer is a recognized authority on co-operation coupled with the contribution he made to economic thought during his association for nearly ten years with the University of Toronto as Professor of Economic History, makes this book of double interest to the Canadian reader. For some years now, Reader in Economic History at the University of Cambridge, Mr. Fay continues in this volume his study of co-operation from 1908, the period with which Volume 1 concluded, up to the end of the year 1938.

The author states in his preface that the Great War brought two changes in the co-operative field. Firstly, "co-operation was coming to embrace a growing percentage of the middle class" and secondly, it was necessary to consider to what extent, under the emergency of war, the State had intervened in the marketing and price of foodstuffs. On the second point, Mr. Fay writes, "For a short while it seemed that this was a passing phase, but later on, and particularly in the countries of the New World, it became clear that the precedents set in the war were the basis of a new attitude towards agricultural marketing. But whether it would strengthen or curtail the scope of true agricultural co-operation was not, and indeed to this day, is not clear."

The volume covers a vast field—most of the European countries, the United States, Canada, Australia, New Zealand and India. Part I "presents a general view of co-operation from the standpoint of its evolution as an idea and its significance as an economic form." Great Britain and the European countries are discussed in Part II, more in those forms of co-operation that are outside the agricultural field. In Part III, agricultural co-operation and "the wider problems of agricultural organization"—the production controls, marketing regulations, price-fixing measures and other methods of planning, are reviewed. This section is concerned with Great Britain and the "English-speaking world," for agricultural co-operation in Europe, which was examined in detail in Volume I, finds a place in the supplement. Co-operation in the Scandinavian countries is reviewed in Part IV.

Of necessity, Mr. Fay has had to devote a considerable section of his book to a study of the marketing schemes and various forms of government control which are in vogue in Great Britain and many New World countries, for to a considerable extent, such measures impinge upon the field of co-operation. As between the technique of State control on the one hand and co-operation on the other he writes, "I submit that on balance the relationship in all the British Dominions is to-day complementary rather than rival."

While the approach throughout is historical, the book is far from being merely a record of co-operative progress during the last thirty years, for the author is in the happy position of being able to write of countries which he has recently visited and the text is enriched by this intimate touch.

As the author has included in this volume a number of countries which were not examined in his previous study—Volume I was descriptive of co-operation in Great Britain and certain European countries only—the necessary historical background has been provided to complete the picture of co-operation in these New World countries, which are discussed for the first time in the volume under review.

OTTAWA: Printed by J. O. PATENAUDE, I.S.O., Printer to the King's Most Excellent Majesty, 1939.

The ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE ECONOMICS DIVISION
MARKETING SERVICE
DEPARTMENT OF AGRICULTURE
OTTAWA

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Vol. IX, No. 4
Published by Authority of the Hon. James G. Gardiner
Minister of Agriculture
August, 1939

ECONOMIC SITUATION

Economic conditions in Canada recorded improvement in May over the preceding month. There was a considerable increase in business operations as measured by the index of physical volume of business and the index of industrial activity compiled by the Dominion Bureau of Statistics, both of which indexes advanced by over four points.

There was widespread improvement in industrial employment on June 1 when 30,388 more persons than on May 1 were on the pay-rolls of the 11,718 establishments reporting to the Dominion Bureau of Statistics.

Greatly increased activity was indicated by these employment figures in manufacturing—especially in lumber, pulp and paper, food, clay, glass and stone, and iron and steel products. The increased activity also embraced the non-manufacturing industries, while transportation, communications, construction and maintenance, services and trade provided work for many more persons than at May 1.

The general wholesale price index continued on the steady level it has maintained since November though there was a slight decline during the second week of July when the weekly index was 72·8. The index of Canadian farm products declined during June, owing to lower prices for livestock and particularly livestock products and the weekly index on July 14, stood at 63·1.

Wheat prices did not retain the high level of about $65\frac{1}{2}$ cents reached during the latter week of May but declined during June and closed on the last day of that month at $61\frac{7}{8}$ cents a bushel for No. 1 Manitoba Northern cash wheat at Fort William. The decline continued throughout the first two weeks of July and the closing price on July 20 was $52\frac{1}{2}$ cents a bushel—a six year low level.

The fourth of a series of seven telegraphic reports covering crop conditions throughout Canada issued by the Dominion Bureau of Statistics on July 18, reported deterioration of wheat crop prospects in the Prairie Provinces owing to a week of high temperatures and very little precipitation—particularly in early sown fields in central and southern districts of Manitoba and Saskatchewan. Alberta prospects remain favourable, but further rains and more moderate temperatures are needed in all areas. Rains have relieved a serious crop condition in the Peace River district.

The index of retail prices, rents and costs of services has shown little change since the beginning of the year.

United Kingdom.—The various indicators of business activity during recent months point to a marked and growing revival in trade and industry. Since January there has been a steady decline in the number of insured persons unemployed and during the five months to June, 689,000 persons found employ-

Annual and Monthly Index Numbers of Prices and Production Computed by Dominion Bureau of Statistics

Year	Wholesale Prices 1926=100				Retail prices and cost of services (5)	Production (6) 1926=100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·5	57·3	74·0	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·8	112·3	114·4	82·7	141·3
1937....	84·5	84·5	85·7	84·9	83·1	122·8	120·8	49·4	157·3
1938....	78·6	73·6	69·0	81·3	84·1	112·9	114·6	64·9	144·5
1938									
May....	80·3	77·3	74·6	81·8	84·2	110·7	112·5	41·1	157·8
June....	80·1	76·6	74·3	80·5	84·1	108·4	109·3	20·6	188·3
July....	78·6	71·5	65·9	80·8	84·2	109·1	109·8	40·3	142·7
Aug.....	76·0	64·2	54·9	79·7	84·9	110·5	110·8	89·2	139·2
Sept....	74·5	62·4	51·2	81·1	84·1	119·2	120·7	123·9	135·1
Oct....	74·1	63·8	53·6	81·0	83·9	118·6	121·1	145·6	138·8
Nov....	73·5	64·9	54·6	82·1	83·8	123·4	128·3	101·6	148·3
Dec....	73·3	64·6	53·8	82·8	83·6	115·6	118·1	85·7	146·7
1939									
Jan.....	73·2	64·8	54·7	81·7	83·3	113·0	114·2	52·0	152·8
Feb....	73·2	64·7	54·7	81·5	83·1	111·7	114·1	32·3	161·4
Mar....	73·2	65·1	54·9	82·1	83·1	113·2	115·2	48·1	166·6
April...	73·4	65·5	56·1	81·3	83·1	116·7	119·1	60·3	183·1
May....	73·7	65·2	55·9	80·7	83·1	121·4	123·3	102·6	230·7
June....	73·6	63·3	25·6	76·1	82·9	121·4	124·4	40·5	210·6

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1936, p. 17.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1936, p. 52, and Monthly Mimeographs 1937-39.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.

Prices and Price Indexes 1913-1936, p. 103, and Monthly Mimeographs, 1937-1939.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

Yearly index numbers for 1938, subject to revision.

ment. Increased activity is reported in various key industries; coal, iron and steel, shipping, cotton and textile, while both imports of raw materials and exports of manufactures have increased. The output of electricity has been well maintained.

While much of the improvement can be attributed to activity connected with defence, a study of the percentages of unemployed in various industries when compared with January, shows that the improvement is quite general in character affecting such industries as glass, pottery, brick and tile, cotton and textiles, leather, paper and printing, transport and communications, distributive trades, and miscellaneous trades and services. Retail trade has also shown improvement.

There was an increase in overseas trade during May and exports of British manufacture showed a welcome increase in value. The Board of Trade figures for the first quarter of 1939 indicate a rise of about 3 per cent in the volume of exports of British goods compared with the first three months of 1938.

United States.—Business conditions improved considerably during June and indications during July point to a continuance of this improvement. The index of physical volume of industrial production of the Federal Reserve System declined from 104 last December to 98 in March and then fell abruptly to 92 for April and May. The improvement in June, however, has carried the index back to about the level of March with good prospect of this level being maintained or even bettered during July. The spring decline would appear to have been influenced largely by the uncertain international situation, the coal strike and unseasonable weather. Trade, particularly that of a seasonal character, has shown improvement with the weather and a sharp increase in coal production and in industries dependent upon coal, followed the resumption of work in the coal mines. The international situation despite the easing of tension, still remains as a curb to business generally.

THE RELATION OF SCHOOL FINANCES TO LAND CLASSIFICATION

L. S. MATTHEWS

The work carried on during the past few years in Saskatchewan by the Economics Division, Marketing Service, Dominion Department of Agriculture in cooperation with the Farm Management Department of the University of Saskatchewan has been a land classification study in the south central part of the province, based on the land's capacity for wheat production.

The first section of the work was undertaken in the summer of 1936, when an area covering the seven rural municipalities of Excel, Key West, Norton, Brokenshell, Laurier, The Gap and Bengough, was surveyed. The data were analysed during the following winter, some revision was made in the summer of 1937, and a land class map of the area was then made available.

The unit of classification was the quarter section of 160 acres. Each quarter was placed in one of five land classes as follows: class I, sub-marginal; class II, marginal; class III, fair wheat land; class IV, good wheat land; class V, excellent wheat land.

As a " follow up " to such classification some enquiry into the social services of the area recommended itself. Schools absorb the largest share of local government expenditure, and as data on school finances were readily available this was the first service selected for examination.

The degree of variation that exists in the finances of school districts in dissimilar land class areas and the comparative burden for this service borne by them, were some of the main features to be brought out, and it is these that will be discussed in this paper.

In this limited survey area there are only isolated cases in which all the land within a school district is of a uniform land class and falls within any particular one of the land classes already described. Such cases as do occur are insufficient in number to provide representative samples for comparison of school districts according to these land classes. It became necessary therefore, for the purpose of this study, to establish new land categories, and these were made on a basis of the percentage of the area of a school district falling within one or more of the original classes. The limits of these categories are as follows:—

Category A.—Over 70 per cent in land class III and IV of which at least 25 per cent is land class IV.

Category B.—Over 75 per cent in land class III.

Category C.—Seventy-five per cent in land class II and III, of which at least 20 per cent falls in each land class.

Category D.—Seventy-five per cent in land class I and II, of which at least 20 per cent falls in each land class.

The differences between these categories is necessarily narrower than differences between land classes. Seventy-six of the 106 school districts in the area fall within these categories; the remainder have too diverse a land class pattern to permit of categories being made to accommodate them.

The financial and statistical records were examined for a period of fifteen years—school years ending June 30th, 1922 to 1936—of thirty-three sample school districts; seven in Category "A," nine in Category " B," eight in Category " C " and nine in " D." They were selected at random from the seventy-six districts with the reservation that during the fifteen-year period, no changes, or only minor ones, had been made in their boundaries and they had been continuously " one teacher " schools.

The average annual revenue and expenditure for this fifteen-year period for these thirty-three districts, that is to say, for 495 school years, is given in Table 1.

Table 1.—Average Annual Revenue and Expenditure of Thirty-Three 'One Teacher' School Districts in South Central Saskatchewan 1922-1936 and Index Numbers in Districts of Different Land Class Categories

(Average of Thirty-Three Districts—100)

—	Average expenditure	Land class category			
		A	B	C	D
Number of districts	33	7	9	8	9
	$	Index	Index	Index	Index
Revenue:					
Loan revenue	20	375	25	30	40
Taxation	939	116	100	96	91
Government grant	257	98	102	103	96
Miscellaneous	16	75	62	156	100
Revenue other than loans	1,212	111	100	98	92
Total revenue	1,232	116	99	97	92
Expenditure:					
Capital	116	134	101	93	78
Current	1,060	106	102	100	94
Debt retirement	60	228	53	62	83
Total	1,236	115	99	97	92

As it is not the actual figures which are of interest, but rather the differences between school districts representative of the four land class categories, an index is used for comparison among them. In this index, 100 represents the average of the thirty-three sample districts.

The indices of taxation revenue and all expenditure other than that for debt retirement show a decided and consistent increase from the lower to the higher categories. Government grants are not designed to lessen the burden on school expenditure in the poorer farming areas. Borrowing was much higher in the "A" districts, and the higher payments for debt retirement indicate there was, too, much liberal borrowing in the earlier years.

A matter of more importance than relative costs is comparative burden. For this, an estimated income of the four representative districts is necessary.

From the original land classification data, it was possible to segregate a number of farms wholly within each land class, obtain their average acreage under wheat, and the average yield, and so arrive at an estimate of the average annual number of bushels of wheat that were available for sale, after making due allowance for feed and seed supplies. On the farms on the poorer land, however, the proportion of suitable land for wheat growing is smaller, and consequently a greater proportion is used for grazing. Cattle sales and sales of livestock products on such farms are of greater importance and bear a higher ratio to total cash sales than is the case on farms with more productive land. To rectify any bias in favour of the income from the better land, cattle sales were taken into consideration.

Table 2.—School Costs per Bushel of Wheat Available for Sale in Thirty-Three School Districts in South Central Saskatchewan for the Fourteen-Year Period 1922 to 1935, and for Two-Seven Year Periods 1922 to 1928 and 1929 to 1935

—	Land class category			
	A	B	C	D
Number of districts	7	9	8	9
1922 to 1935—				
Wheat income bus.	44,056	37,511	36,167	27,463
Index	100	85	75	62
Total expenditures $	1,422	1,225	1,202	1,133
Index	100	86	84	80
School costs per bus. c.	3·23	3·26	3·32	4·12
Index	100	101	103	128
1922 to 1928—				
Wheat income bus.	72,305	60,982	53,506	43,143
Index	100	84	74	60
Total expenditures $	1,955	1,622	1,590	1,446
Index	100	83	81	74
School costs per bus. c.	2·70	2·66	2·97	3·35
Index	100	98	110	124
1929 to 1935—				
Wheat income bus.	16,702	14,318	13,300	11,986
Index	100	86	80	72
Total expenditures $	785	754	765	750
Index	100	96	97	96
School cost per bus. c.	4·70	5·27	5·75	6·28
Index	100	112	122	134

From work done in the Farm Management Department of the University of Saskatchewan, it was found that the cash return from a mature cow was the equivalent of that of 31 bushels of wheat. The figures for cattle carried on all the farms were available, and after allowing for household requirements the remainder were considered available for sale and were expressed in bushels of wheat.

Thus a wheat and " wheat equivalent of cattle " income—the only income of any importance on farms in this area—for quarter sections of each land class was arrived at, and these were calculated for a long time period 1922-1935, and for two intermediate periods 1922-1928 and 1929-1935. The period coincides with that over which school districts data had been collected.

Taking the typical land class pattern of a school district of each category, the number of quarter sections of land of each class was multiplied by the number of bushels of wheat available for sale for a quarter section of that class and a typical wheat income for the district obtained.

These incomes are given for the long time and the two short time periods in Table 2, and the relation to school costs is shown expressed in the number of cents that school services cost for every bushel of wheat available for sale. The differences are also illustrated by an index with Category "A" districts as 100.

Table 3.—Receipts and Costs per Bushel of Wheat Available for Sale in Thirty-Three School Districts in South Central Saskatchewan, 1922 to 1935

—	Category			
	A	B	C	D
Number of districts	7	9	8	9
	cents	cents	cents	cents
Receipts:				
Taxes received	2·46	2·51	2·70	3·12
Government grants	0·57	0·70	0·80	0·90
Loan revenue	0·17	0·01	0·02	0·03
Expenditure:				
Current expenditure	2·56	2·87	3·19	3·61
Capital expenditure	0·35	0·31	0·32	0·33
Debt retirement	0·31	0·08	0·11	0·18
Teacher's salary	1·82	2·14	2·35	2·68
Officials remuneration	0·13	0·14	0·14	0·17

With the exception of Category "B" in 1922-1928, there is an increasing burden of school costs from the higher to the lower category districts, though the better class land districts (especially Category "A" districts) maintain more costly services over the long period. The heavy burden in Category " D " districts is marked, being one-third more than "A" districts in the period 1929 to 1935 during which time expenditures approximate closely.

Some of the detailed expenditures and sources of revenue of the 33 school districts are shown in table 3. The figures are expressed in cents per bushel of wheat available for sale.

A case may be considered for apportioning government aid to equalize the burden of school costs.

Considering only elementary education for the whole area of 106 school districts at $1,250 per district, which closely approximates the average expenses in table 1, the total expenditure would be $132,500 annually.

With the additional grant under an amendment to the Saskatchewan Schools Grant Act 1937, elementary " one teacher " schools open for 200 days are eligible for a $300 grant. Thus on the present basis the government contribution for the area can be taken as $31,800, leaving the sum of $100,700 to be raised by taxation.

The number of quarters in each land class, their average annual estimated productivity for wheat and wheat equivalents and the total wheat income of the area are shown in Table 4.

Table 4.—Estimated Annual Wheat Income of Total Area of 106 School Districts in South Central Saskatchewan, 1922-1935

Land class	Number of quarter sections	Sales per quarter section	Sales per land class
		bush.	bush.
I	2,529	263	665,127
II	2,039	390	795,210
III	3,288	562	1,847,856
IV	434	676	293,384
V	31	948	29,388
	8,321	....	3,630,965

With a wheat income of 3,630,956 bushels, a flat rate of 2·77 cents per bushel would raise the $100,700 required from taxation. In Table 5 is shown the amounts which would be raised by taxation at this rate in each of the districts under Categories "A," "B," "C" and "D," and how distribution of the Government Grant would have to be made in order to provide funds to meet their $1,250 costs. A column is provided for districts other than the sample districts in order to show the balance of apportionment.

Table 4.—State Aid that would be Required by School Districts in Different Land Class Categories on Assumption of Uniform Taxation on Wheat Income—1922 to 1935

—	Land class category					
	A	B	C	D	Other	Total
Number of school districts	7	9	8	9	73	106
	$	$	$	$	$	$
Amount raised by taxation per district at 2·77c. per bushel	1,221	1,040	920	762	940	100,700
Division of Government Grant to give each district $1,250	29	210	331	489	310	....
Total of grant to each category	203	1,890	2,648	4,401	22,630	31,782

Under such an arrangement as outlined wherein the burden of school services is to be equalized, schools in Category "A" districts require a very small Government Grant to balance their budgets whereas those in Category "B" need assistance amounting to 39 per cent of their costs.

NOTES

The intended 1939 acreage of spring wheat in the Prairie Provinces is estimated at 25,100,000 acres, compared with 24,946,000 acres in 1938.

Present indications are that the planted acreage of all types of tobacco in 1939 will be somewhat higher than the estimated figure for 1938 of 83,745 acres.

Exports of apples for the fiscal year 1939 amounted to 2,897,000 barrels, the bulk of which went to the United Kingdom.

SOME ASPECTS OF LAND SETTLEMENT IN NORTHWESTERN QUEBEC AND NORTHEASTERN ONTARIO[1]

A. Gosselin and G. P. Boucher

A series of articles dealing with land settlement in Northwestern Quebec and Northeastern Ontario have appeared in the four previous issues of the Economic Annalist. In this article the information analysed in previous articles is summarized in order to show the results of land settlement in both areas.

The colonies visited have been classified according to the date of establishment of most settlers. Those which have been settled since 1928 are referred to as " new colonies " while the colonies settled before 1928 are referred to as " old colonies." In Quebec 142 settlers were interviewed in five new colonies and 54 in four old colonies. In Ontario 37 settlers were interviewed in new settlements of the New Liskeard and Cochrane districts and 54 in four older settlements of the New Liskeard, Val Gagné, Cochrane and Kapuskasing districts.

Settlers' Original Assets.—As pointed out in previous articles most of the settlers established in new colonies had very limited assets or financial resources when they arrived in colonization districts. The total assets of the 142 settlers interviewed in Quebec averaged $200 distributed as follows:—$104 in household goods, $15 in farm equipment, $23 in livestock and $58 in cash. The total assets of the 37 settlers interviewed in Ontario averaged $311. Of this amount $140 was in household goods, $23 in farm equipment, $83 in livestock and $63 in cash.

The settlers interviewed in the older colonies had substantial resources to start with. They were mostly people who had disposed of their farms in older sections of Quebec and Ontario and came to colonization districts with the idea of making a fresh start at a time when a score of mining and industrial centres were springing up and when the sale of timber and pulpwood was a profitable business. In Quebec the original assets of 54 settlers averaged $2,442. Of this amount $129 was in household goods, $55 in farm equipment, $107 in livestock and $2,151 in cash. The average assets of the 54 Ontario settlers was $2,447. Of this amount $99 was in household goods, $9 in farm equipment, $138 in livestock and $2,201 in cash. The large amount in cash owned by a few settlers contributes to raise the average in both areas.

Government Assistance.—As explained in a previous article, the main difference in the general land settlement policies of Quebec and Ontario lies in the form of assistance given to settlers during the first few years of their establishment. In Quebec, previous to 1923 settlers did not receive financial assistance from the state. A system of land clearing premiums was initiated in 1923. At first this grant was rather small and amounted to about $20 a year for five or six years, but it was gradually increased and with the additional grants of different kinds allowed under the Vautrin Plan introduced in 1935, the amount of free grants received by each settler in premiums or bonuses is quite substantial.

In Ontario, financial assistance is given to settlers as loans which have to be repaid over a period of years. Under the Settlers' Loan Act of 1916 a loan up to $500 was granted to a new settler and after a few years a farm loan could also be secured from the Agricultural Development Board. Since March, 1936, however, no new loans of this kind have been granted to settlers in Ontario.

In both provinces a certain number of unemployed people have been settled on colonization land under the Gordon Plan of 1932 and 1934 which provided a maximum grant of $600 and $700 per settler contributed in equal shares by the Dominion and Provincial Governments and the municipality concerned.

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[1] A map of this area appeared on page 25, *Economic Annalist,* April, 1939.

TABLE 1.—SUMMARY SHOWING SETTLERS' ORIGINAL ASSETS, GOVERNMENT ASSISTANCE AND FARM INCOME OF 196 SETTLERS IN CERTAIN COLONIZATION DISTRICTS OF NORTHWESTERN QUEBEC AND 91 SETTLERS OF NORTHEASTERN ONTARIO

Province and Locality	Number of records	Settlers' original assets	Government Assistance				Farm Revenue			
			Gov't. grants under the Gordon or Vautrin plans	Land clearing premiums or settlers' loans[1]	Direct relief	Total Gov't. assistance	Labour off farm	Sales of wood	Sales of farm products	Total
		$	$	$	$	$	$	$	$	$
QUEBEC										
New Colonies:										
Ste. Gertrude	43	798	411	306	151	868	107	66	42	215
St. Felix	29	265	62	243	64	369	47	104	45	196
Roquemaure	25	219	81	124	52	257	57	37	4	98
Montbeillard	35	134	583	220	239	1,052	126	19	19	164
Moffette	10	202	....	261	174	435	139	4	63	206
Total and averages	142	200	295	237	139	671	93	53	32	178
Old Colonies:										
LaSarre	11	1,194	....	165	....	165	41	121	202	364
Palmarolle	7	720	....	288	85	373	27	83	272	382
Macamic	28	3,895	....	100	....	100	12	....	219	231
Fugèreville	8	578	....	19	....	19	150	50	363	563
Total and averages	54	2,442	....	126	11	137	40	43	244	327
ONTARIO										
New Colonies:										
New Liskeard	22	275	491	23	113	902	28	3	61	92
Cochrane	15	363	320	243	173	1,099	31	44	37	112
Total and averages	37	311	422	112	138	983	29	20	51	100
Old Colonies:										
New Liskeard	13	4,084	....	500	19	519	82	....	432	514
Val Gagné	8	2,183	....	556	36	592	75	....	493	568
Cochrane	23	1,709	....	1,244	108	1,352	76	15	655	746
Kapuskasing	10	2,227	....	935	101	1,036	49	332	560	941
Total and averages	54	2,447	....	906	75	981	72	68	560	700

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[1] Land clearing premiums apply to Quebec and settlers' loans to Ontario.

In the new colonies of Quebec the Government grants under the Gordon and Vautrin Plans averaged $295 for all farms, while the amount received by the 89 settlers reporting such grants averaged $470. The average amount received as land clearing premiums was $237 for all farms and the amount received by 136 settlers reporting such premiums averaged $243. In addition to Government grants and clearing premiums an average amount of $139 per family was given as direct relief. Of these 142 settlers 104 were given direct relief to the average amount of $190. The total Governmental assistance given to settlers in the new colonies of Quebec averaged $671 and a certain number of those established in recent years were still eligible for further assistance.

In the new colonies of Ontario the grants received under the Gordon Plan averaged $422 for the 37 settlers and each of the 26 settlers reporting such grant received an amount of $600. Four other settlers were granted a loan averaging $1,038. In addition to that an average amount of $138 was given as direct relief. The 25 settlers reporting direct relief were given an average amount of $204. The total government assistance received by these 37 settlers as grants, direct relief, and settlers' loans averaged $983.

In the old colonies of Quebec the only Government assistance received by settlers was as land clearing premiums which averaged $126 per farm. Direct relief was given to only 3 settlers of Palmarolle to the average amount of $85. The total government assistance given to these 54 settlers averaged $137 per farm.

In the old colonies of Ontario the average loan granted per settler was $906. Of these 54 settlers 31 reported loans averaging $1,577. In addition, direct relief was given to 16 settlers to the average amount of $252. The total government assistance given to these 54 settlers as loans and direct relief averaged $981. These figures show that Ontario settlers received much more assistance than Quebec settlers established at about the same time.

Settlers' Income and Means of Living.—The average yearly revenue from labour off farm, sales of wood and farm products averaged $178 per farm in the new colonies of Quebec for the five-year period 1933-37 and $100 per farm in Ontario for the three-year period 1935-37.

In the old colonies the yearly revenue from these sources averaged $327 per farm in Quebec and $700 per farm in Ontario for the same periods. This would show that there is a certain relationship between the amount of assistance received in the first stage of establishment and the farm revenue thereafter.

Price of Farms.—In both new and old colonies the price paid for farms was much higher in Ontario than Quebec. The average price in new colonies of Quebec was $70 per farm or $0.59 per acre as compared with $207 per farm or $2.21 per acre in Ontario, while the average price in old colonies was $1,435 per farm or $6.77 per acre in Quebec as compared to $2,171 per farm or $11.52 per acre in Ontario. This may be partly explained by the fact that at the time Northern Ontario was open to settlement better opportunities were offered in Ontario than in Quebec because of mining development and the forest industry. At that time Ontario settlers were granted settlers' and farm loans while Quebec settlers did not get Government financial assistance.

Farm Investment.—Farm investment in buildings, fences, household, and farm equipment and live stock was about the same in the areas visited in both provinces. In the new colonies the average farm investment was $922 in Quebec and $935 in Ontario. In the old colonies it was $4,774 in Quebec and $3,860 in Ontario. The average investment per farm in live stock and buildings was higher in Quebec than in Ontario and this accounts for the difference in farm investment. On the other hand the price paid for farms was higher in

TABLE 2.—SUMMARY SHOWING PRICE OF FARMS, FARM INVESTMENT, FARM EXPENDITURE, FAMILY LIVING EXPENSES AND FINANCIAL OBLIGATIONS OF 196 SETTLERS OF NORTHWESTERN QUEBEC AND 91 SETTLERS OF NORTHEASTERN ONTARIO

Province and Locality	Number of records	Price paid for farms	Investment					Expenditures			Financial obligations
			Buildings and fences	Household equipment	Farm equipment	Live-stock	Total invest-ment	Farm expend-iture	Family living expenses	Total farm and living expenses	
		$	$	$	$	$	$	$	$	$	$
QUEBEC											
New Colonies:											
Ste. Gertrude	43	57	326	159	186	272	943	167	366	533	177
St. Felix	29	147	588	107	214	284	1,193	164	260	424	171
Roquemaure	25	52	293	113	68	176	650	75	267	342	51
Montbeillard	35	37	337	127	182	203	804	90	263	353	117
Moffette	10	61	333	169	312	347	1,161	52	241	293	342
Total and averages	142	70	366	133	177	246	922	123	293	416	150
Old Colonies:											
LaSarre	11	1,090	2,095	245	805	866	4,011	154	358	512	454
Palmarolle	7	1,371	2,287	137	540	675	3,639	230	367	597	241
Macamic	28	1,587	3,130	338	898	1,314	5,680	489	342	831	549
Fugèreville	8	1,435	1,637	204	951	854	3,646	309	308	617	779
Total and averages	54	1,435	2,589	273	840	1,072	4,774	360	343	703	524
ONTARIO											
New Colonies:											
New Liskeard	22	796	349	188	70	249	856	64	210	274	119
Cochrane	15	395	477	145	171	257	1,050	125	288	413	243
Total and averages	37	207	401	171	111	252	935	89	242	331	169
Old Colonies:											
New Liskeard	13	1,598	1,702	292	755	696	3,445	367	354	721	799
Val Gagné	8	2,731	2,247	209	1,091	823	4,370	148	352	500	82
Cochrane	23	2,202	2,090	189	911	1,004	4,194	341	323	664	943
Kapuskasing	10	2,400	1,656	190	629	748	3,223	262	300	562	690
Total and averages	54	2,171	1,939	217	848	856	3,860	280	330	610	734

Ontario than in Quebec and this makes the total farm investment including land, about the same with $6,209 for Quebec farms and $6,031 for those in Ontario.

Farm and Living Expenses.—In 1936-37 the average farm expenses for seed, feed, taxes and miscellaneous items in new colonies were respectively $123 in Quebec and $89 in Ontario while living expenses for food, clothing, health and miscellaneous items averaged $293 per family in Quebec and $242 in Ontario making a total of both farm and living expenses of $416 for Quebec and $331 for Ontario. In the old colonies farm expenses averaged $360 in Quebec as compared with $280 in Ontario. The average living expenses averaged $343 per family in Quebec and $330 in Ontario. The total farm and living expenses amounted to $703 in Quebec and $610 in Ontario.

Financial Obligations.—In the new colonies the average debt per farm was $150 in Quebec and $169 in Ontario. Of the 142 settlers interviewed in Quebec 114 reported debts averaging $184 per farm. In Ontario of the 37 settlers 33 reported debts averaging $190 per farm.

In the old colonies the average debt per farm in Quebec was $524 and of the 54 settlers 37 reported an average debt of $764. In Ontario the average debt per farm was $734 and of the 54 settlers 42 reported an average debt of $943.

Acreage Cleared.—As shown in Table 3, with the exception of the group of settlers established before 1917, the area under cultivation and of improved land per farm is greater in the Ontario colonies than in those of Quebec. This partly explains the higher income from the sale of farm products in the old colonies of Ontario when compared with sales of farm products in the old colonies of Quebec (Table 1).

Table 3.—Record of Acreage Cleared—196 Farms in Certain Colonization Districts of North western Quebec, and 91 Farms of Northeastern Ontario, 1937

Province and Date of Establishment	Number of records	Size of farm	Area cut over per farm	Area under cultivation per farm	Total area of improved land per farm	Percentage of improved land per farm
		acres	acres	acres	acres	acres
Quebec.						
1932 to 1937	115	109·8	5·8	13·5	19·3	17·57
1927 to 1931	30	163·5	7·0	47·7	54·7	33·45
1922 to 1926	13	162·9	7·8	57·7	65·4	40·1
1917 to 1921	18	240·9	——	113·6	113·6	47·15
Before 1917	20	213·7	——	125·7	125·7	58·82
Ontario.						
1932 to 1937	35	85·5	10·9	14·0	24·9	29·1
1927 to 1931	7	191·1	5·0	73·0	78·0	40·8
1922 to 1926	10	205·9	3·7	96·2	99·9	48·5
1917 to 1921	22	163·7	9·9	62·3	72·2	44·1
1912 to 1916	8	206·5	15·0	118·0	133·0	64·4
Before 1912	9	222·9	18·9	107·8	126·7	56·8

It is very difficult to appraise the relative merits of the Quebec and Ontario land settlement policies because there are several other factors which must be considered apart from mere government financial assistance. Of Government assistance it may be stated however that Ontario settlers received assistance much earlier than Quebec settlers. Further, a land settlement policy based on loans granted to settlers rather than one of free grants, is somewhat less costly to the state. It would be possible to appraise more fully the results obtained in both areas only after several years. At that time the percentage of settlers established in recent years under various land settlement plans, still remaining in these areas, and the degree of their success, will enable more definite conclusions to be drawn.

CAPE BRETON COUNTY FARMERS AND THE SYDNEY MARKET AREA, 1937

L. G. Horton and E. P. Reid

As part of the Sydney market area study conducted in 1938 by representatives of the Economics Division of the Marketing Service of the Dominion Department of Agriculture and of the Nova Scotia Department of Agriculture, complete records of the marketing of farm produce in 1937 were taken from 154 farmers selected at random in all sections of Cape Breton county. This is 20·5 per cent of the number of farms in the County and estimates will be made later of the total quantities and value of local produce consumed in the Sydney market area. Meanwhile, the present article refers to data collected from the 154 farmers only.

Table 1.—Distance from Market and Distribution of Farm Areas by Main Cash Crops for 154 Cape Breton County Farmers, 1937

——	Number of miles from market	Acres cultivated	Acres vegetables	Acres potatoes	Acres of fruits		Acres cleared
					Small	Tree	
Total on 154 farms	....	3,268·5	221·4	231·7	18·25	19·75	5,825·5
Average per farm	11·9	21·2	1·4	1·5	0·12*	0·13†	37·8
Highest reported	54·0	90·0	13·7	7·0	3·5	5·0	130·0
Lowest reported	0·5	3·0	0·12	0·25	0·12	0·25	3·0

* 133 farms reported no land in small fruits.
† 134 farms reported no land in tree fruits.

The 1931 Census shows that in Cape Breton county there were 35,461 acres of improved farm land, which makes up 5·8 per cent of the total area. In the whole of Nova Scotia the improved land constitutes 6·4 per cent of the total, while in King's County, one of the leading agricultural counties, it constitutes 18·7 per cent of the total. This indicates that farming is not carried on in Cape Breton to so great an extent as it is in many other parts of the Province. This is due to several physical factors. The county is rough and in some parts is almost mountainous, with many outcroppinges of rock. Considerable areas around the mines are unproductive. Soils of low natural fertility are most common and adequate drainage is lacking in many portions of the county. The spring season is late, and this prevents the local farmers from securing the benefit of the early market. However, it was found that there were many idle acres on farms visited on the survey, and a number of idle farms in each district. That these areas, once cultivated, should now be idle may be an indication of the difficulties and disadvantages of farming, even within a 35-mile radius of industrial centres, in which there are nearly 90,000 consumers. What these difficulties are and how they might be overcome have not been investigated to any extent in this study. An answer would require a study of the use and production possibilities of the land of the area. Information concerning the 154 farms visited as to location and utilization of the crop area has been compiled and is shown in Table 1.

The average distance of the farms from the market was 11·9 miles. This is not great as judged by present day conditions of transportation. Nevertheless, the Cape Breton farmer who is near the market does tend to sell direct to the consumer to a greater extent than the farmer who is farthest away; he sells more through the country trucker or to the wholesaler. The figure for average area of vegetables per farm, namely, 1·4 acres, includes turnips and other root crops, part of which is fed to the farm stock.

TABLE 2.—NUMBER OF LOADS AND PERCENTAGE DISTRIBUTION BY MONTHS OF NUMBER OF LOADS BROUGHT TO SYDNEY AREA MARKETS BY 140 CAPE BRETON COUNTY FARMERS, 1937

Month	Loads brought to market		Average number of loads per farmer
	No.	%	
January	395	5·9	2·8
February	378	5·6	2·7
March	432	6·5	3·1
April	293	4·4	2·8
May	463	6·9	3·3
June	488	7·3	3·5
July	643	9·6	4·6
August	803	12·0	5·8
September	835	12·5	6·0
October	844	12·6	6·1
November	571	8·5	4·1
December	546	8·2	3·9
Total	6,691	100·0	48·7

Table 2 shows the number of trips made to market by farmers with farm produce other than bottled milk. In cases where a farmer supplied daily both milk and general produce, only his trips with general produce are included.

Over 37 per cent of the trips to market were made in the harvest quarter of the year; that is, during August, September and October. This was due not so much to an increase in the number of farmers marketing at this season, as to the increase in the number of trips each farmer made to market. In the last half of the year 63·4 per cent of the total number of trips were made, which is some indication of limited storage facilities.

The weight and value of the loads varied greatly according to season, though no statistical data have yet been prepared. The mode of transportation to market varied considerably. Forty-seven farmers used passenger automobiles, and trucks were employed by 45. Of the trucks, 25 were of ½ ton capacity, 13 were of ¾ ton capacity, 5 were of 1 ton capacity and 4 were of 2 ton capacity or over. One-horse wagons were used by 30 farmers, and 8 farmers used two-horse wagons. Eight farmers hired vehicles with which to make their deliveries and 8 others sold to truckers at the farm. Five farmers shipped their produce by bus or train, and in three cases the retailer or wholesaler collected the produce at the farm.

Although the farming is not notably specialized, dairying and truck-gardening predominated, and provided products for immediate consumption by the nearby urban population. Table 3 classifies the 154 farms by main source of income into seven groups. Farms on which dairy products, vegetables, or potatoes provided the main income numbered 135, or 87·6 per cent of the sample of 154 farms. Average farm receipts varied from $1,942 for the dairyman, to $97 for the lamb specialists. For some farmers in all groups non-farm income was important, but particularly for those specializing in sheep and lambs. They are distant from the towns in mountainous country with small cleared areas, and as a consequence their income from the sale of forest products and for labour off the farm was a higher proportion of their total incomes.

The average income for vegetable and poultry specialists was only somewhat less than for dairymen, while dependence upon fruit and potatoes provided about half as much per farm.

Table 3.—Main Source of Cash Farm Income of 154 Cape Breton County Farmers, Showing Value of Farm Produce Sold and Average Value per Farm for Each Group, 1937

Main source of farm income	Farms		Total farm receipts		Average total receipts per farm from sale of farm products
	No.	%	$	%	$
Dairy	97	63·0	188,399*	72·1	1,942
Vegetables	21	13·6	36,985	14·2	1,761
Potatoes	17	11·0	14,477	5·5	852
Poultry	9	5·9	16,680	6·4	1,853
Vegetables and potatoes	6	3·9	3,467	1·3	578
Lambs	3	1·9	291	0·1	97
Fruit	1	0·7	979	0·4	979
Total	154	100·0	261,278*	100·0	1,697

* Includes $99,664 worth of milk and cream sold in bottles on daily distributing routes by 33 of the 154 farmers.

Table 4 presents an analysis of the sales, by commodities and according to class of customer, of the 154 farms included in the study. In table 5 the same information is shown on a percentage basis. The totals in these tabulations do not include sales of bottled milk and cream on daily routes. Whole milk sold to pasteurizing plants and farm butter are, however, included in the list of commodities for which sales information is tabulated. On this limited basis the dairy group still had the highest value, namely, $47,596 or 29·4 per cent of the total sales of $161,614. Three-quarters of the value of dairy products sales were made to pasteurizing milk distributors, and 13 per cent, chiefly cream and butter, were made direct to householders. Vegetable sales amounting to $45,714 were almost as large as sales of dairy products, being 28·3 per cent of the total. Two-fifths of the vegetable sales were to independent retail stores, one-third to consumers, and considerable amounts to wholesalers and chain stores. The same tendency to sell principally to consumers and retailers prevails in the other commodity groups, and 29·7 per cent of all farmers' sales were taken by consumers and 27·5 per cent by independent storekeepers. Sales by farmers to hotels, restaurants, and institutions, and to country buyers, were of small importance proportionally, but a few producers depended quite extensively on these outlets for marketing their produce.

Table 4.—Value of Different Kinds of Produce Sold to Various Classes of Buyers by 154 Cape Breton County Farmers, 1937

——	Wholesalers	Independent retail stores	Chain retail stores	Hotels and restaurants	Direct to homes	Milk and cream distributors	Country truckers	Total	
	$	$	$	$	$	$	$	$	%
Vegetables	6,608	18,585	5,097	178	15,060	....	186	45,714	28·3
Potatoes	3,422	6,864	2,153	290	6,855	....	17	19,601	12·1
Fruit	700	2,317	173	....	1,583	....	....	4,773	3·0
Poultry and poultry products	4,953	12,153	232	375	12,544	....	376	30,633	19·0
Milk and dairy products	2,012	1,328	4	2,191	6,181	35,753	127	47,596	29·4
Other livestock products	1,548	3,190	1,388	245	5,722	....	1,204	13,297	8·2
Total	19,243	44,437	9,047	3,279	47,945	35,753	1,910	161,614	100·0

TABLE 5.—PERCENTAGE DISTRIBUTION OF VALUE OF DIFFERENT KINDS OF PRODUCE SOLD TO VARIOUS CLASSES OF BUYERS BY 154 CAPE BRETON COUNTY FARMERS, 1937

—	Wholesalers	Independent retail stores	Chain retail stores	Hotels and restaurants	Direct to homes	Milk and cream distributors	Country truckers	Total
	%	%	%	%	%	%	%	%
Vegetables	14·7	40·8	11·4	0·1	33·0	....	*	100·0
Potatoes	17·7	35·4	11·6	0·2	35·0	....	0·1	100·0
Fruit	14·7	48·5	3·6	....	33·2	....	....	100·0
Poultry and poultry products	16·2	39·6	0·8	1·2	41·0	....	1·2	100·0
Milk and dairy products	4·3	2·9	*	4·6	13·0	75·2	*	100·0
Other livestock products	11·6	24·1	10·4	1·8	43·1	....	9·0	100·0
Total	11·9	27·5	5·6	2·0	29·7	22·1	1·2	100·0

* Less than one-tenth of one per cent.

CONSUMPTION OF MILK IN CANADIAN FARM HOMES

At the request of the Associated Country Women of the World a study of the consumption of milk, cream, butter and cheese in rural households in Canada during 1937 was undertaken by the Division.

The present article is an excerpt from the Report prepared for the Association, and is descriptive of the consumption of milk—whole milk, skim milk and buttermilk—in Canadian farm households.

The average daily consumption of whole milk per person in the 1,823 farm households studied throughout Canada was 1·09 pints, but there was a considerable range in the average consumption rate in different provinces. Consumption was highest in Saskatchewan, 1·46 pints, and lowest in New Brunswick, 0·90 pint. This consumption rate of 1·09 pints for the farm homes of Canada compares fairly closely with the daily per capita consumption of 1·0 pint in 360 farm households in certain rural areas of Ontario, Quebec and Alberta.[1]

More than a third, 35·36 per cent, of the milk consumed in farm homes was used in cooking and approximately two-thirds was consumed as a beverage. Of that used as a beverage, 89 per cent was taken in the raw state, but milk was boiled before use in approximately 6 per cent of the farm homes and pasteurized milk was used in 5 per cent of the households.

TABLE 1.—DAILY PER CAPITA CONSUMPTION OF WHOLE AND SKIM MILK AND BUTTERMILK, AND PERCENTAGE OF MILK USED IN COOKING ON 1,823 FARM HOUSEHOLDS IN VARIOUS PROVINCES OF CANADA, 1937

Province	Number of households	Consumption per Person				Used in Cooking
		Whole milk	Skim milk	Buttermilk	All milk	All milk
		pints	pints	pints	pints	%
Prince Edward Island	82	1·28	0·22	0·06	1·56	34·99
Nova Scotia	124	1·18	0·22	0·04	1·44	29·05
New Brunswick	129	0·90	0·37	0·27	1·54	43·21
Quebec	792	1·00	0·09	0·05	1·14	38·12
Ontario	225	1·09	0·10	0·06	1·25	39·37
Manitoba	122	0·80	0·52	0·12	1·44	42·13
Saskatchewan	298	1·46	0·42	0·13	2·01	32·88
Alberta	17	1·13	0·18	0·06	1·37	37·58
British Columbia	34	1·31	0·26	0·06	1·63	36·45
Total or Average	1,823	1·09	0·20	0·08	1·37	35·36

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[1] An Economic Study of the Consumption of Milk and Cream in Certain Urban and Rural Districts of Canada, Dominion Department of Agriculture, Publication No. 608.

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THE ECONOMIC SITUATION

The outbreak of war may be expected to bring about changes in the relationship of prices farmers receive for their products and of goods which they must buy. It seems pertinent, therefore, to draw attention to some changes in prices during the last war. The index numbers referred to in this article are based on prices of thirty-six Canadian farm products with prices in 1926 taken as 100 (see table, page 66). In 1913, the weighted index number of wholesale prices of these farm products was 62·6. The index of field products was 56·4 and that of animal products 77·0. During 1914, there was a rise of less than 7 points in the total index but the index of prices of field products was more than eight points higher while the animal products index rose only two points. In 1915, the total index advanced to 77·7, increases in prices of field products again being largely responsible. It was rather different in 1916 for the index of field products advanced from 76·9 to 88·4. In this year, however, the index of animal products prices advanced sharply to 92·3. Even these advances were moderate compared with the rise in prices during 1917, when the field products index averaged 134·3, and the animal products index advanced to 119·2. In the following year (1918), there was a slight rise in the index number of field products, whereas the rapid increase in prices of animal products carried that index to 134·7. The total index advanced to 132·9. The index of field products was more than 9 points higher in 1919 but the animal products index advanced more than seventeen points to reach the high point for the six-year period. In 1920, the total index was 161·6. This was the high point of the war and post-war period. The advance was entirely due to the continued rise in the prices of field products, the index reaching 166·5.

The trend of wholesale prices of Canadian farm products from 1913 to 1921 was, therefore one of very moderate increases in prices of animal products until 1916 followed by a sharp rise in 1917 which continued until 1919 when a decline set in. In the case of field products, there was a somewhat more rapid rise until 1916 and then a sharp rise occurred which carried through to 1920. What happened in 1921 may be remembered somewhat more clearly. The index of prices of field products dropped to 100·3 and that of animal products to 108·5. The total index declined to 102·8 compared with 161·6 in the previous year.

The index number of wholesale prices of 236 commodities was 64 in 1913. It rose at a moderate rate throughout the years 1914, 1915 and 1916 and registered a sharp advance in 1917, when it reached 114·3. During 1918 and 1919, more moderate advances were shown but in 1920 another sharp advance took place, the index being 155·9. During the following year, however, it fell off rapidly and declined to 110·0.

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ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

Year	Wholesale Prices 1926=100				Retail prices and cost of services (5)	Production (6) 1926=100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·5	57·3	74·0	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·8	112·3	114·4	82·7	141·3
1937....	84·5	84·5	85·7	84·9	83·1	122·8	120·8	49·4	157·3
1938....	78·6	73·6	69·0	81·3	84·1	112·9	114·6	64·9	144·5
1938									
July....	73·6	71·5	65·9	80·8	84·2	109·1	109·8	40·3	142·7
Aug.....	76·0	64·2	54·9	79·7	84·9	110·5	110·8	89·2	139·2
Sept....	74·5	62·4	51·2	81·1	84·1	119·2	120·7	123·9	135·1
Oct....	74·1	63·8	53·6	81·0	83·9	118·6	121·1	145·6	138·8
Nov....	73·5	64·9	54·6	82·1	83·8	123·4	128·3	101·6	148·3
Dec....	73·3	64·6	53·8	82·8	83·6	115·6	118·1	85·7	146·7
1939									
Jan.....	73·2	64·8	54·7	81·7	83·3	113·0	114·2	52·0	152·8
Feb....	73·2	64·7	54·7	81·5	83·1	111·7	114·1	32·3	161·4
Mar....	73·2	65·1	54·9	82·1	83·1	113·2	115·2	48·1	166·6
April...	73·4	65·5	56·1	81·3	83·1	116·7	119·1	60·3	183·1
May....	73·7	65·2	55·9	80·7	83·1	121·4	123·3	102·6	230·7
June....	73·3	63·3	55·6	76·1	82·9	121·4	124·4	40·5	210·6
July....	72·6	62·7	55·0	75·5	83·1	120·5	123·9	76·8	150·6
Aug....	72·4	58·4	48·2	75·6	83·0	125·2	127·5	112·4	150·2

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1936, p. 17.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1936, p. 52, and Monthly Mimeographs 1937-39.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.

Prices and Price Indexes 1913-1936, p. 103, and Monthly Mimeographs, 1937-1939.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

Yearly index numbers for 1938, subject to revision.

FACTORS INFLUENCING THE PRICE OF APPLES[1]

A. E. Richards

Seven years' records from eighteen co-operative fruit packing companies in Nova Scotia formed the basis for a statistical analysis of prices and returns from apples. The sample on which the average prices were based contained a total of 1,981,569 barrels. This represents approximately 19 per cent of the total marketings of twelve standard varieties during the crop years 1931 to 1937 inclusive.

Variety.—Variety is a factor of major influence on price return. Its importance is strikingly revealed when the average returns from all grades and sizes for twelve standard varieties are compared over a series of years (table 1).

The range in price between Golden Russet and Gravenstein, based on a seven years' average return, was $1.61 per barrel. Over the period of seven years the differences in price return among varieties ranged from $1.64 in 1937-38 to $3.28 in 1936-37. In every year but two the range exceeded the average return of the low-ranking variety, or in other words the top-ranking variety returned more than double the lowest. It will be noted that the Golden Russet variety held the favored position in four of seven years and ranked highest on the seven-year average. Ben Davis was at the bottom of the scale in three of seven years, but Gravenstein returned the low average. These average prices are based on the gross return to the packing companies and represent an f.o.b. shipping point price.

Table 1.—Average Returns for the Highest and Lowest of Twelve Standard Varieties Ranked on Price Returns Throughout Seven Years, 1931-7

Year	Highest ranking	Average return	Lowest ranking	Average return
		$		$
Seven years	Golden Russet	3·49	Gravenstein	1·88
1931–2	Golden Russet	3·65	Ribston	1·91
1932–3	McIntosh Red	3·24	Ben Davis	1·46
1933–4	Red Gravenstein	3·75	Gravenstein	1·26
1934–5	Golden Russet	3·38	Stark	1·47
1935–6	Golden Russet	4·74	Ben Davis	1·93
1936–7	Red Gravenstein	4·73	Baldwin	1·45
1937–8	Golden Russet	3·37	Ben Davis	1·73

Consistency of Variations Among Varieties.—Certain varieties consistently brought higher returns than others. Over a seven-year period Golden Russet ranked highest with an average return of $3.49 a barrel and in each year this variety maintained its position in the upper third when the varieties were ranked on price returns by years (table 2). The varieties are ranked on the basis of this return in upper, middle and lower thirds. The crosses indicate the position of the varieties in each of the seven years. Reading along the top line, the crosses show that Golden Russet was in the upper third bracket in each of the years 1931-37. King variety with an average return of $2.48 ranks fifth on the seven-year average. Reading across the line, it is seen to have held a position in the upper third bracket in 1931 and 1932, then fell to the middle third in 1933-4-5-6 and in 1937 its average was such as to lift it into the upper third bracket. The relative positions of other varieties are indicated. The top ranking varieties maintained a relatively high position throughout the seven years (table 2). In 19 out of 26 cases the top ranking varieties are in the upper third bracket. Likewise a number of low priced varieties seldom moved out of the lowest bracket.

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[1] A section of a report on Prices and Returns for Nova Scotia Apples, in course of preparation.

Although these prices are informative they are apt to be misleading, especially to the grower who is considering setting out new orchard. The tabulated price represents the average return to the packing company and indicates the relative sales for varieties. The growers' main interest is in the dollars received per apple tree or per acre of orchard. It is in the growers' interest, therefore, to follow these prices back to the return per tree or on an acreage basis before deciding on the most profitable variety to grow. Among the factors affecting the net return per unit of production to the grower are the percentage pack-out, the proportion of number one grade, the proportion of large size and the rate of production per tree.

TABLE 2.—AVERAGE RETURN PER BARREL AND RELATIVE POSITION OF VARIETIES IN EACH YEAR, 1931–7

Variety and ranking	Seven-year average return	Ranking position of varieties in each year																				
		Upper third 1931-7							Middle third 1931–7							Lower third 1931–7						
	$	'31	2	3	4	5	6	7	'31	2	3	4	5	6	7	'31	2	3	4	5	6	7
Upper third																						
Golden Russet	3·49	x	x	x	x	x	x	x														
Red Gravenstein	3·48[1]			x			x	x				x	x									
McIntosh Red	2·96	x	x	x	x		x	x												x		
Cox Orange (½ brls.)	2·57	x		x		x				x					x				x		x	
Middle third—																						
King	2·48	x	x					x			x	x	x	x								
Northern Spy	2·42				x	x			x		x			x	x		x					
Wagener	2·37									x		x	x	x	x	x		x				
Ribston	2·26		x			x								x	x	x		x	x			
Lower third—																						
Baldwin	2·12								x	x		x	x					x			x	x
Stark	1·96								x		x						x		x	x	x	x
Ben Davis	1·94				x				x		x						x			x	x	x
Gravenstein	1·88						x			x						x		x	x	x		x

[1] Based on five-year average.

The Pack-out.—Apples grown in Canada intended for sale when packed in barrels, must conform to certain grading requirements. The apples must be sound, mature, clean, hand-picked, well formed and of one variety. According to requirements of the grade they must be free from insect pests, visible blemishes such as bruises, russeting, skin punctures and limb rub. They must meet the colour requirements as specified for the grade.

TABLE 3.—AVERAGE ANNUAL PERCENTAGE OF STANDARD VARIETIES OF TREE-RUN APPLES GRADED AND PACKED IN BARRELS, 1931–7

Year	Average pack-out	Range among varieties
	%	%
Seven years	83	11
1931	86	13
1932	79	22
1933	86	14
1934	85	15
1935	88	11
1936	77	20
1937	80	17

When the apples are going over the grader those which do not meet the grading requirements are culled out. The proportion of apples unsuitable for commercial packing varies with the season and variety (table 3). In the seasons of 1932 and 1936 heavy wind storms were experienced in the apple producing areas of Nova Scotia at the time of harvest. Due to a high proportion of windfalls and bruised fruit the proportion of apples graded and packed was relatively low in 1932 and 1936. In these years also the range in percentage pack-out was larger, indicating that certain varieties were more susceptible to wind or had been picked before the gale. In 1933, a year of large production and in 1935, the year of highest production on record, the percentage packed out were above average. This may mean that natural conditions which favoured production also checked disease and insect pest damage or, that growers gave more attention to orchard control practices during years of higher than average crops or, that grading standards were lowered in the heavy crop years.

TABLE 4.—PERCENTAGE OF TREE-RUN APPLES GRADED AND PACKED IN BARRELS AND THE RELATIVE POSITION OF VARIETIES IN EACH YEAR, 1931–7

Variety and ranking	Seven-year average pack-out	Ranking position of varieties in each year																				
		Upper third 1931–7							Middle third 1931–7							Lower third 1931–7						
	%	'31	2	3	4	5	6	7	'31	2	3	4	5	6	7	'31	2	3	4	5	6	7
Upper third—																						
Red Gravenstein	89[1]			x	x		x	x					x									
Gravenstein	88		x	x	x	x		x	x					x								
Wagener	88	x	x		x	x	x	x			x											
McIntosh Red	87	x	x	x	x	x	x															x
Middle third—																						
Cox Orange	84	x	x								x		x	x	x				x			
Ribston	84	x				x				x	x	x		x	x							
King	84			x					x	x		x	x	x								x
Baldwin	81							x	x	x		x						x		x	x	
Lower third—																						
Northern Spy	80								x	x			x					x	x		x	x
Golden Russet	79										x					x	x		x	x	x	x
Ben Davis	79											x			x	x	x	x		x	x	
Stark	78						x								x	x	x	x	x	x		

[1] Based on five-year average.

Certain varieties are subject to less shrinkage than others (table 4). This is specially true of early varieties which are packed and shipped immediately. The ranking positions of the respective varieties in this respect were very consistent over the seven-year period.

Since the culled apples bring a considerably lower return, any tendency in a variety to run out a high percentage of culls has an important bearing on the net return to the producer per tree or per acre of apple orchard. For example, a variety which packs out 90 per cent and brings $2.00 per barrel on a packed-out basis returns $1.80 per barrel to the grower on a tree-run basis. Another variety with a pack-out of 80 per cent which nets $2.25 per barrel also returns $1.80 per barrel to the grower. This point will be emphasized in other relationships to show that the variety with the highest sales value is not necessarily the most profitable for the grower measured in net returns per tree or per acre.

Percentage of Number One Grade.—Another important factor which influences the average net return to the grower is the proportion of apples of number one grade in the pack. Certain varieties each year hold a consistent position with respect to grade (table 5). While certain varietal characteristics no doubt influence the position of individual varieties in relation to others, the length of time in storage appears to be an important factor. In general, the earlier varieties which are not held in storage for an extended period produced a higher percentage of apples in the top grade.

On the average during a seven-year period, 53 per cent of the tree-run apples for the varieties listed, graded and packed-out in the number one grade (table 5). The three top-ranking varieties with an average of 65 per cent number ones are usually packed immediately and shipped during the fall months. The period of shipment of the three lowest varieties does not commence until late November or early December. With the exception of Gravensteins it will be observed that the ranking position of the varieties over the seven-year period is consistent.

TABLE 5.—PERCENTAGE OF PACK-OUT IN NUMBER ONE GRADE AND THE RELATIVE POSITION OF VARIETIES IN EACH YEAR, 1931–7

Variety and ranking	Seven-year average	Ranking position of varieties in each year																				
		Upper third 1931–7							Middle third 1931–7							Lower third 1931–7						
	%	'31	2	3	4	5	6	7	'31	2	3	4	5	6	7	'31	2	3	4	5	6	7
Upper third—																						
Red Gravenstein	68[1]			x	x	x	x	x														
Cox Orange	66	x	x	x	x	x	x	x														
McIntosh Red	62	x	x	x	x	x		x						x								
Ribston	59	x		x		x	x	x		x		x										
Middle third—																						
Stark	56						x		x	x	x	x	x		x							
Wagener	56				x				x	x	x		x	x	x							
Golden Russet	54	x	x								x	x	x	x	x							
King	51								x	x	x	x	x								x	x
Lower third																						
Gravenstein	49		x						x						x			x	x	x	x	
Ben Davis	42													x		x	x	x	x	x		x
Baldwin	40															x	x	x	x	x	x	x
Northern Spy	35															x	x	x	x	x	x	x

[1] Based on five-year average.

One of the larger apple packing companies equipped with cold storage kept a monthly record of the shrinkage and pack-out into grades for all varieties (table 6). A higher percentage of number ones was packed in the early months of the apple shipping season and the loss from shrinkage increased in almost direct proportion to the length of time that the apples were held in storage. Although this record was kept for one season only, it supports observations with respect to early and late varieties over the seven-year period.

TABLE 6.—GRADE PERCENTAGES AND SHRINKAGE FOR ALL VARIETIES EXPERIENCED BY AN APPLY PACKING COMPANY DURING THE SHIPPING SEASON OF 1937–8

Month	Barrels tree-run	Pack-out		Shrinkage
		Number ones	Domestics	
	No.	%	%	%
September	11,400	50·2	43·1	6·7
October	6,770	51·3	38·8	9·9
November	9,725	45·3	42·1	13·6
December	5,440	45·1	41·4	10·5
January	7,785	37·8	46·8	15·4
February	3,580	32·5	51·3	16·2

Percentage of Large Size.—A third factor of importance affecting the price return is the proportion of large-sized apples in the pack-out. Large size has reference to apples with a diameter of two and one-half inches and up.

There was comparatively little variation from year to year in the ranking of each variety as to size, but the range among varieties was large (table 7). King variety, with an average of 92 per cent large-sized apples, and Cox Orange with 22 per cent represent the extremes in this comparison. Although size is a varietal characteristic, it is under the growers' control to some extent through thinning and spot picking.

TABLE 7.—PERCENTAGE OF PACK-OUT IN LARGE SIZE ($2\frac{1}{2}''$ UP) BOTH GRADES COMBINED AND THE RELATIVE POSITION OF VARIETIES IN EACH YEAR, 1931–7

Variety and ranking	Seven-year average	Ranking position of varieties in each year																				
		Upper third 1931–7							Middle third 1931–7							Lower third 1931–7						
	%	'31	2	3	4	5	6	7	'31	2	3	4	5	6	7	'31	2	3	4	5	6	7
Upper third—																						
King	92	x	x	x	x	x	x	x														
McIntosh Red	76	x		x	x	x	x	x		x												
Red Gravenstein	74[1]			x		x	x	x				x										
Northern Spy	71	x	x		x	x		x			x			x								
Middle third—																						
Gravenstein	70			x			x		x	x			x		x				x			
Stark	67								x	x	x	x	x	x	x							
Wagener	61		x		x				x				x	x	x			x				
Baldwin	58								x		x	x	x				x				x	x
Lower third—																						
Ben Davis	57									x	x	x		x	x	x				x		
Ribston	43															x	x	x	x	x	x	x
Golden Russet	34															x	x	x	x	x	x	x
Cox Orange	22															x	x	x	x	x	x	x

[1] Based on five -year average.

TABLE 8.—PERCENTAGE OF PACK-OUT IN NUMBER ONE GRADE, LARGE SIZE ($2\frac{1}{2}''$ UP) AND THE RELATIVE POSITION OF VARIETIES IN EACH YEAR, 1931–7

Variety and ranking	Seven-year average	Ranking position of varieties in each year																				
		Upper third 1931–7							Middle third 1931–7							Lower third 1931–7						
	%	'31	2	3	4	5	6	7	'31	2	3	4	5	6	7	'31	2	3	4	5	6	7
Upper third—																						
Red Gravenstein	51[1]			x	x	x	x	x														
McIntosh Red	50	x	x	x	x	x	x	x														
King	48	x	x	x	x	x	x	x														
Stark	39	x				x		x		x	x	x		x								
Middle third—																						
Wagener	37	x	x		x		x				x		x		x							
Gravenstein	36		x	x					x				x	x	x				x			
Ribston	28								x	x		x			x			x		x	x	
Ben Davis	27									x	x	x		x	x	x				x		
Lower third—																						
Baldwin	26												x			x	x	x	x		x	x
Northern Spy	25									x		x	x	x		x		x				x
Golden Russet	21								x		x						x		x	x	x	x
Cox Orange	16								x								x	x	x	x	x	x

[1] Based on five-year average.

Percentage Number One, Large Size.—In tables 5 and 7 varietal characteristics were considered with respect to grade and size as separate factors. In table 8 the effects of the previous two sets of data are combined. It should be the aim of the grower to produce as large a proportion of apples as possible to qualify according to grade and size standards for this classification. This is largely the growers' problem. The extent to which he can profitably undertake cultural operations which will produce apples of large size and number one grade will depend upon the cost of the orchard practices in relation to the returns.

Yields of Standard Varieties.—The grower does not measure his profits or losses on what a barrel of fruit sells for on the auction market or what it returns to the packing company. He cultivates acres and sprays trees. His costs are associated with these units of production and his measure of profit is on that basis. The yield of the productive unit, therefore, is a factor of primary importance to the grower.

TABLE 9.—AVERAGE TOTAL PRODUCTION OF STANDARD VARIETIES OF TREES DURING TWENTY-TWO YEARS FROM TIME OF SETTING AT THE DOMINION EXPERIMENTAL STATION, KENTVILLE, NOVA SCOTIA

Variety	Average production per tree barrels
McIntosh Red	47
Ben Davis	36
Northern Spy	36
Stark	30
Ribston	28
Gravenstein	28
King	26
Baldwin	24
Cox Orange	22
Wagener	20
Golden Russet	15

Records of yield for the standard varieties were supplied by the Dominion Experimental Station at Kentville in the centre of the Nova Scotia fruit growing area. Extreme variation in aggregate yield among varieties is evident in the records of twenty-two years' production (table 9). The two high-priced varieties, Golden Russet and Cox Orange appear near the bottom of the list.

TABLE 10.—SEVEN-YEAR AVERAGE RETURNS ON A PACKED-OUT AND TREE-RUN BASIS

Variety	Average return packed-out	Variety	Average return tree-run	Variety	Tree-run in per cent of packed-out
	$		$		%
Golden Russet	3·49	Red Gravenstein	2·80	Gravenstein	89
Red Gravenstein	3·18	Golden Russet	2·79	Red Gravenstein	88
McIntosh Red	3·04	McIntosh Red	2·49	Wagener	88
Cox Orange (½ brls.)	2·47	Wagener	2·11	Ribston	86
Northern Spy	2·43	Cox Orange (½ brls.)	2·05	King	85
Wagener	2·41	King	2·00	Cox Orange (½ brls)	83
King	2·35	Northern Spy	1·95	McIntosh Red	82
Ribston	2·19	Ribston	1·88	Baldwin	81
Baldwin	2·05	Baldwin	1·67	Northern Spy	80
Stark	2·02	Stark	1·60	Golden Russet	80
Ben Davis	1·95	Ben Davis	1·55	Stark	79
Gravenstein	1·73	Gravenstein	1·54	Ben Davis	79

The Tree-run Average Return.—It has been shown that certain varieties are subject or susceptible to greater shrinkage than others. This is reflected in the tree-run returns to the producer which as a per cent of the packed-out return to the packing company is inversely proportionate to the amount of shrinkage for any particular variety. The average return for Golden Russet on a packed-out basis was $3.49 per barrel. The average return tree-run was $2.79 per barrel or 80 per cent of the packed-out price (table 10). The shrinkage in this variety was approximately 20 per cent (table 4). Gravenstein and Wagener varieties on the other hand had a relatively high percentage pack-out and the tree-run average as a per cent of the packed-out is proportionally high. This explains in part why some relatively low-priced varieties are more profitable than others which may bring a higher price on the market.

Premium on Quality.—The price return is the final and in general a very effective test of quality. That the wholesale buyer who reflects consumer demand is ready to pay a premium for quality fruit as judged by appearance is very evident from a comparison of returns for number one and domestic grades (table 11). The premium ranges from 53 cents per barrel for Starks to $1.04 per barrel for Golden Russets. Since varieties differ greatly in price, the percentage premium is a more significant measure. On this basis the largest premium was obtained for Cox Orange and almost equally high premiums were received for top quality over second quality apples for Baldwins, Ribstons and Gravensteins. It would seem to be in the growers' interest to go to some additional expense in production to improve the quality of varieties which return these relatively high premiums and thus to obtain the price advantage in the higher grade.

TABLE 11.—PREMIUM FOR NUMBER ONE GRADE OVER DOMESTIC GRADE BASED ON SEVEN YEARS' AVERAGE RETURNS, 1931–7

Variety	Average return per barrel		Premium	
	Number ones	Domestics		
	$	$	$	%
Cox Orange	2·80	1·82	0·98	54
Baldwin	2·56	1·71	0·85	50
Ribston	2·51	1·73	0·78	45
Gravenstein	2·05	1·42	0·63	45
Red Gravenstein[1]	3·48	2·53	0·95	38
Ben Davis	2·30	1·69	0·61	36
Golden Russet	3·97	2·93	1·04	36
Wagener	2·72	2·01	0·71	35
Northern Spy	2·92	2·17	0·75	35
McIntosh Red	3·35	2·50	0·85	34
Stark	2·25	1·72	0·53	31
King	2·63	2·06	0·57	28
All varieties				39

[1] Based on five-year average.

For all varieties the average premium for the number one grade over domestics was 39 per cent. This indicates that the government standard grades have a definite meaning to the packing companies and that in general they are putting out their pack on that basis. While the wholesale buyer and the consumer may not purchase on grade designation but rather on appearance and condition of the fruit this tabulation indicates a definite association between quality as judged by the consumer at one end of the line of distribution and the fruit packing company at the other. To the fruit grower who turns his apples over to the packing company in trust and for which he receives a pooled average return based on grade this relationship should be reassuring.

Premiums on Size.—For most of the standard varieties the consumer is ready to pay a premium for a large-sized apple over the medium and small sizes. For the Stark and Baldwin varieties this amounts to over 40 cents a barrel in the number one grade or approximately 20 per cent (table 12). For three varieties, Gravenstein, Cox Orange and Ribston, the consumer shows a preference for medium-sized apples in this grade and discounts the larger size as much as 10 cents a barrel in Cox Orange and 17 cents a barrel for the Ribston variety or 3 and 6 per cent respectively.

TABLE 12.—PREMIUM FOR LARGE SIZE (2½″ UP) OVER MEDIUM SIZE (2¼″ to 2½″) in NUMBER ONE GRADE BASED ON SEVEN YEARS' AVERAGE RETURNS, 1931–7

Variety	Large 2½″ up	Medium 2¼″ to 2½″	Premium	
	$	$	$	%
Stark	2·41	1·98	0·48	25
Baldwin	2·73	2·29	0·44	19
Northern Spy	3·11	2·76	0·35	13
Red Gravenstein[1]	3·57	3·21	0·36	11
Ben Davis	2·40	2·18	0·22	10
King	2·65	2·43	0·22	9
McIntosh Red	3·40	3·20	0·20	6
Wagener	2·90	2·75	0·16	6
Golden Russet	4·17	4·04	0·13	3
Gravenstein	2·06	2·07	−0·01	–
Cox Orange	3·00	3·10	−0·10	−3
Ribston	2·47	2·64	−0·17	−6
All varieties				7

[1] Based on five-year average.

TABLE 13.—PREMIUM FOR LARGE SIZE (2½″ UP) OVER MEDIUM SIZE (2¼″ TO 2½″) IN DOMESTIC GRADE BASED ON SEVEN YEARS' AVERAGE RETURNS, 1931–7

Variety	Large 2½″ up	Medium 2¼″ to 2½″	Premium	
	$	$	$	%
Northern Spy	2·38	1·76	0·62	35
Baldwin	1·97	1·49	0·48	32
Gravenstein	1·55	1·19	0·36	30
Stark	1·88	1·48	0·40	27
McIntosh Red	2·68	2·15	0·53	25
Ben Davis	1·87	1·57	0·30	19
King	2·10	1·81	0·29	16
Wagener	2·14	1·93	0·21	11
Red Gravenstein[1]	2·63	2·38	0·25	10
Golden Russet	3·17	3·07	0·10	3
Ribston	1·76	1·79	−0·03	−2
Cox Orange	1·99	2·08	−0·09	−4
All varieties				15

[1] Based on five-year average.

In the domestic grade a greater premium was paid for the large sizes over the medium sizes than in the number one grade. In the Northern Spy variety the large size obtained a premium of 62 cents or 35 per cent over the medium size while the premium on size for Baldwin, Gravensteins and Stark was approximately 30 per cent (table 13).

For all varieties the premium for large over medium size in the number one grade was 7 per cent compared with 15 per cent in the domestic grade. Higher premiums were paid for size in the cooking varieties than in the dessert classes, while size was discounted in certain varieties of apples usually eaten out of hand.

Table 14.—Premium for Medium Size (2¼" to 2½") over Small Size (1⅞" to 2¼") in Number One Grade Based on Seven Years' Average Returns 1931–7

Variety	Medium 2¼" to 2½"	Small 1⅞" to 2¼"	Premium	
	$	$	$	%
Golden Russet	4·04	3·22	0·82	25
Red Gravenstein[1]	3·20	2·62	0·58	22
McIntosh Red	3·21	2·72	0·49	18
Cox Orange	3·10	2·29	0·81	35
King	2·43	1·94	0·49	25
Northern Spy	2·76	2·02	0·74	37
Wagener	2·74	1·75	0·99	57
Ribston	2·64	2·17	0·47	22
Baldwin	2·29	1·93	0·36	19
Stark	1·93	1·72	0·21	12
Ben Davis	2·18	1·89	0·29	15
Gravenstein	2·07	1·63	0·44	27
All Varieties	....	....	....	26

[1] Based on five-year average.

In every variety the medium sized apples obtained a relatively large premium over the small sizes in number one grade (table 14). In general consumers were ready to pay a higher premium for medium over small sizes in the dessert classes as compared with the culinary types.

Table 15.—Premium for Medium Size (2¼" to 2½") over Small Size (1⅞–" to 2¼") in Domestic Grade Based on Seven Years' Average Returns, 1931–7

Variety	Medium 2¼" to 2½"	Small 1⅞" to 2½"	Premium	
	$	$	$	%
Golden Russet	3·07	2·45	0·62	25
Red Gravenstein[1]	2·38	1·82	0·56	31
McIntosh Red	2·15	1·78	0·37	21
Cox Orange	2·08	1·58	0·50	32
King	1·81	1·44	0·37	25
Northern Spy	1·76	1·42	0·34	24
Wagener	1·93	1·64	0·29	18
Ribston	1·79	1·50	0·29	19
Baldwin	1·49	1·25	0·24	19
Stark	1·48	1·20	0·28	23
Ben Davis	1·57	1·31	0·26	20
Gravenstein	1·19	1·04	0·15	14
All Varieties	....	....	....	23

[1] Based on five-year average.

In the domestic grade the medium sizes brought higher returns than the small sizes for each variety in the comparison.

Returns per Unit of Production.—Profitable production of apples or any other crop is dependent to a very large extent on the rate of production of the crop. To the apple grower the rates of production of the different varieties are important in deciding upon his orchard practices, what varieties to top work and what varieties to add to his plantings (table 16).

TABLE 16.—ESTIMATED AVERAGE RETURNS PER TREE FROM STANDARD VARIETIES BASED ON TWENTY-TWO YEARS' PRODUCTION AND SEVEN YEARS' PACK-OUT AND RETURNS, 1931-7

Variety	Average production per tree	Pack-out	Average return per barrel	Average return per tree
	barrels	%	$	$
McIntosh Red	2·10	87	2·96	5·41
Red Gravenstein	1·26	89	3·48	3·90
Northern Spy	1·71	80	2·42	3·31
Cox Orange (½ brls.)	1·50	84	2·57	3·24
Ben Davis	1·68	79	1·94	2·57
King	1·22	84	2·48	2·54
Ribston	1·26	84	2·26	2·39
Gravenstein	1·38	88	1·88	2·28
Stark	1·37	78	1·96	2·09
Wagener	0·92	88	2·37	1·92
Golden Russet	0·65	79	3·49	1·79
Baldwin	1·02	81	2·12	1·75

The estimated total average returns per tree of each variety have been calculated on the basis of 22 years' aggregate production and seven years' tree-run prices (table 16). A number of the varieties which show up to advantage on the packing company's records do not look so attractive when measured in terms of growers' returns per tree. This is particularly true of the Golden Russet and Wagener varieties. On the other hand some of the lower priced varieties, among them Ben Davis, Ribston and Gravenstein, move up into more enviable positions.

TABLE 17.—VARIETIES OF APPLE TREES SOLD BY NURSERYMEN IN NOVA SCOTIA DURING THE EIGHT YEARS 1931-8 IN RELATION TO THE AVERAGE RETURN PER BARREL AND THE AVERAGE RETURN PER TREE

Variety	Average return per barrel	Trees sold in per cent of total for 8 years	Average return per tree
	$	%	$
Golden Russet	3·49	16	1·79
Red Gravenstein	3·48	–	3·90
McIntosh Red	2·96	9	5·41
Cox Orange (½ brls.)	2·57	4	3·24
King	2·48	4	2·54
Northern Spy	2·42	7	3·31
Wagener	2·37	16	1·92
Ribston	2·26	1	2·39
Baldwin	2·12	1	1·75
Stark	1·96	4	2·09
Ben Davis	1·94	–	2·57
Gravenstein	1·88	9[1]	2·28

[1] Includes Red Gravenstein.

Record of Performance and the Net Return to Grower.—Consideration has been given to the factors influencing the price returns for different varieties. The factor of major importance is the yield per tree or per acre. Factors of minor importance are percentage pack-out, proportion of number one grade and the proportion of large-sized apples.

In the final result, total or average returns per tree, all of these factors are brought together with the weighting of the factors apportioned according to their relative influence. The factors influencing the return directly are yield and pack-out which can be definitely measured. Indirectly the influence of grade and size is reflected in the average return per barrel for a particular variety. The sum-product of these factors (table 17) indicates the relative value of the different varieties to the grower. It is on this basis that the grower should decide on any program of new planting, top working or elimination of varieties.

Statistics on varieties sold by nurserymen in Nova Scotia during the past eight years suggest that growers may have been influenced by the price per barrel on the auction market or the return to the packing company rather than the value per unit of production. A comparison of the returns from the Golden Russet and Wagener varieties with the extent of new planting as indicated by the nursery stock sold emphasizes this point (table 17).

NOTES

The Economics Division of the Marketing Service, Dominion Department of Agriculture, has completed field work on several projects conducted during the past summer, namely: Land settlement in New Brunswick, land utilization in Saskatchewan, land utilization in Alberta, cattle ranching in Alberta, Saskatchewan and British Columbia, land tenure in Saskatchewan, sugar beet production in South Western Ontario, co-operative marketing of live stock and poultry in the Maritime Provinces. Field work on public market facilities in Quebec City, Sherbrooke, and Three Rivers, is continuing. It is expected that the collection of data on land utilization in Cape Breton, and co-operative marketing in Saskatchewan, will be finished about the middle of October. Most of these studies are being carried on in co-operation with Provincial Universities or Provincial Departments of Agriculture.

Hog gradings for the first 37 weeks of 1939 numbered 2,193,464 compared with 2,170,598 during the same period in 1938. There has been a substantial increase in carcasses graded in all provinces.

Sales of cattle at public stock yards at 511,998 showed an increase of 5,055 head during the first 37 weeks of 1939, compared with sales during the same period in 1938. Shipments to plants are also slightly higher this year.

The Bureau of Agricultural Economics, Washington, D.C., reports that in 1939 farmers' cash incomes including products marketed, commodities under government loan in 1939, and government conservation and parity payments will probably total $7,900,000,000 compared with $8,020,000,000 in 1938 and $8,988,000,000 in 1937, the latter figure representing the high point in farm income in the last ten years.

The Bureau of Agricultural Economics, Washington, D.C., reports that "A fairly large seasonal increase in hog marketings is probable in the next few months, and total supplies for the 1939-40 marketing year are expected to be much larger than in 1938-39."

SEASONAL VARIATION IN CANADIAN HOG PRICES

IAN MCARTHUR

During the course of a year, prices of many agricultural commodities fluctuate to a considerable extent as a result of seasonal changes in the supply of, and the demand for, the product. Such fluctuations tend to follow a fairly uniform pattern from year to year. The price of any particular commodity may, however, during any one year, be subject to forces which are not necessarily seasonal in nature, and in that year the seasonal pattern may be disturbed by such conditions. The price of hogs is one which has a fairly well defined seasonal movement resulting from the seasonal distribution of supplies coming on to the markets of the country.

One of the most commonly accepted methods of determining seasonal variation of prices is to simply take prices over a period of time, usually at least ten years, and to calculate by accepted statistical methods the seasonal movement of prices. In the case of Canadian hog prices it is of interest to carry this analysis somewhat further and to observe the shifts which have taken place in the seasonal movement of prices over a period of years, also to relate seasonal variation to the relative position of hog prices throughout the price cycle which extends over periods of from three to four years.

In first calculating seasonal variation of hog prices over the past ten years, the monthly average price of bacon hogs at Toronto for the period 1929 to 1938 were used. Using the linked-relative method of computing seasonal variation, the results are shown in Figure 1. It will be noted that throughout this period hog prices tended to rise to a preliminary peak in February, after which prices receded to lower levels in March and April. A rise in prices during May continued through June to a peak in July. In August prices also averaged relatively high, but declined during September and October to a low point in November. There was a slight rise in December, which continued until the following February.

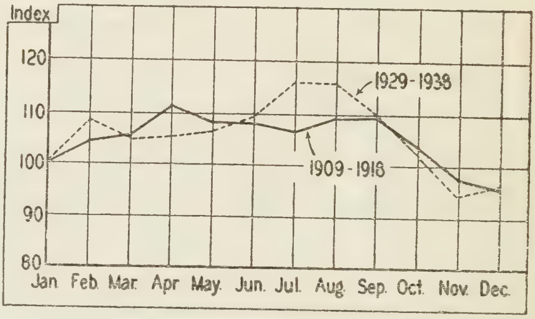

Figure 1. Index of Seasonal Variation in Bacon Hog Prices at Toronto for the Periods 1909-1918 and 1929-1938.

To show the shift which was taken place in the seasonal movement of hog prices, the same calculation was made for the period 1909 to 1918. This movement is also shown in Figure 1. It will be noted that the seasonal movement of prices in those earlier years was quite different from that of the later period. In the earlier period prices tended to rise continuously through the first four months of the year, then to decline during the months of May, June and July. The price then rose to a peak in August and September. With heavy Fall marketings, prices tended to decline during October, November and December. The main reason for the shift which has taken place in the seasonal movement of hog prices, is explained by the change which has taken place in production methods and in the areas of production. The development of hog production in Western Canada has been particularly important in this regard. This fact also largely accounts for the wider seasonal movement for the period 1929-1938.

The cycle which exists in the year to year movement of hog prices is well known. Following periods of high production and low returns, hog marketings tend to decline until prices are sufficiently stimulated to attract producers back into the industry. This results in periods of declining and rising prices usually covering from three to four years for a complete cycle. It might be expected that during periods of rising prices the seasonal movement would be somewhat different from years when the prices were in the declining phase of the cycle.

To test this difference the seasonal variation was calculated for those years when prices were in the upward phase and those years when they were in the downward phase of the cycle. The results are shown in Figure 2. The movements shown under these two conditions reveal that during the spring months of the year the change in hog prices is much less marked in years of the downward phase of the cycle than in those years when hog prices are in the upward phase of the cycle. The period of relative high prices is somewhat shorter during the years of generally falling hog prices, but the price movement from August to November is quite similar for both groups of years. The low point of the year is reached in December in years of the downward phase of the cycle, as compared with November for the other group of years. As a result of the foregoing analysis, it would appear necessary to consider the phase of the hog cycle in anticipating the seasonal movement of hog prices for any one year. While the present hog supply situation in Canada would normally result in hog prices in 1940 being in the downward phase of the cycle, an increased demand from Europe would materially affect the situation.

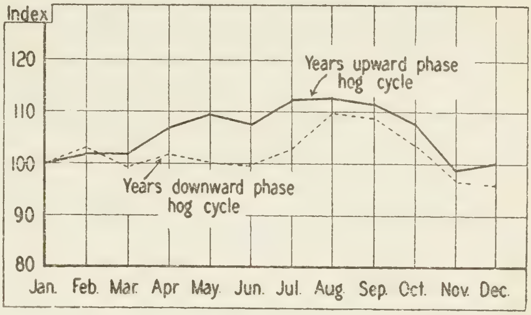

Figure 2. Index of Seasonal Variation in Bacon Hog Prices at Toronto in Years of the Upward and the Downward Phase of the Hog Price Cycle.

ECONOMIC LITERATURE

BRITISH AGRICULTURE, THE PRINCIPLES OF FUTURE POLICY. A report of an Enquiry organized by Viscount Astor and B. Seebohm Rowntree. Longmans, Green and Co., London, New York and Toronto, 1938, 442 pages and Index.

A POLICY FOR BRITISH AGRICULTURE, The Rt. Honble. Lord Addison of Stallingborough, Minister of Agriculture 1930-1931. Victor Gollancz Ltd., London, 1939. 284 pages and Appendices.

These books may well be reviewed together, for both present a picture of the changing structure of British agriculture, and both seek to find a long-time policy which will revitalize the rural communities and bring a greater measure of stability to the farming industry.

The first volume is actually the Report of a number of experts and had its origin as a result of a previous investigation undertaken by the same authors into the possibilities of land settlement as a method of relieving unemployment.

The authors review the difficulties that have been faced by the British farmer during the last 70 years. The rapid agricultural development of the New World countries, and the agricultural policy of Denmark, coupled with the invention of chilling and refrigeration, brought new problems to British agriculture; for on a free trade market the home farmer had to compete with products produced abroad at lower cost; wheat, beef and lamb, butter, eggs and bacon and even fruit. " In face of this there was nothing left for the British farmer but to concentrate on those products in which he enjoyed a naturally sheltered market; and so we witnessed a still swifter change-over from arable to grass farming, an enormous expansion in milk production supported by collective bargaining arrangements, and a doubling of the output of eggs and vegetables. Those farmers who still grew crops and reared stock to compete with imports, had greatly to increase their technical efficiency in order to remain solvent."

The major portion of the volume is concerned with conditions since 1932 when Britain abandoned free trade and chapters are devoted to the major crops and the chief livestock enterprises. Marketing schemes are not overlooked and the section on personnel and organization, presents the case for the agricultural worker, the small holder, the farmer, and the landlord, and in the latter connection, national ownership of land is considered. Agricultural research, education and advice complete this survey of British agriculture.

As a basis for a long-time program the writers suggest an agriculture built around a national policy of improved nutrition. This would involve the production of the "health-protective" foods, such as milk, eggs and fruit with particular emphasis on the reduction of milk costs in an effort to lower the retail price and increase the present very low per capita consumption. Because many landlords are unable to supply the long-term capital improvements which much of the land requires, and give the leadership in research which many supplied in the past, the writers suggest a regional system of Land Improvement Commissions should be established to acquire land coming under such classification. Improvement in efficiency, technique, and soil fertility are further essentials which must go hand in hand with such an agricultural program.

With regard to Government subsidies, the general conclusion is reached that it is unwise to subsidize the home production of products that can be produced more cheaply elsewhere. "It is, we believe, fundamentally false policy to seek to counter national advantages such as these. To do so is to repudiate the principle of the international division of labour in precisely the applications where it offers the greatest benefits. It cannot be reconciled with a rational approach to the problems of international trade."

Lord Addison's examination of agriculture is more sociological in its approach; he writes more from the land, the countryside and the people back to the economic problem, and his solution is almost directly in opposition to the conclusions reached in the first volume reviewed, for he presents the case for the national ownership of all agricultural land together with price-fixing, that shall be equitable to both producer and consumer, of foodstuffs and state control over importations.

The author's brief for national ownership of land, however, hinges on much the same issue that prompts the suggestion in the first volume reviewed, that certain lands should be acquired by the State. On the one hand many of the big landowners are unable, owing to high taxation—and particularly succession duties, to provide the improvements to land and buildings which are essential to an efficient agriculture, while on the other hand, many owner-occupiers (they increased by 98,000 in England and Wales between 1919 and 1927) bought their farms at highly inflated prices, and find themselves for this reason, handicapped by heavy mortgages and a lack of ready cash to make capital improvements.

Lord Addison's proposals include "a single Ministry of Agriculture and Foods Supplies, and unified direction of the whole great business," for he visualizes for the future, though not necessarily the immediate future, a completely socialized agriculture as being the only satisfactory manner in which the ills of the industry may be cured.

The volume includes an appendix on "Compensation on Nationalization of Land" contributed by Ernest Davies.

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DEPARTMENT OF AGRICULTURE
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THE ECONOMIC SITUATION

The index of wholesale prices in Canada published by the Dominion Bureau of Statistics advanced nearly six points in September. Wholesale prices of Canadian farm products also made a substantial gain, rising from 58·4 in August to 64·2 in September. Prices of animal products rose somewhat more rapidly than those of field products.

The index of physical volume of business showed only a minor advance during the first month of the war. Industrial production was slightly higher. Mineral production showed a substantial gain. Exports of copper, nickel and asbestos made particularly large gains. The index of manufacturing rose from 116·5 to 121·3, textiles and newsprint being particularly active.

The October indexes are not available as this is being written but there has been a tendency towards steadier prices in recent weeks. The movement of live stock to market has been quite heavy, hog marketing being higher than the usual seasonal increase. Grains have not moved rapidly.

Farm Labour.—It is reasonable to suppose that there may be some increase in farm wages in 1940, though how great the increase may be it is difficult to forecast. Examination of the variations in farm wages in the first world war shows clearly that during the first two years farm wages rose very slowly, but in 1917 there was a very sharp increase, the average monthly wage including board for the summer season being $64. In 1918 a further increase took place and the high point was reached in 1920 when wages and board averaged $86 per month. In 1938 wages per month were somewhat higher than in 1914.

Wages of Male Farm Help in Canada per Month and per Year 1914 to 1921 and 1938

Year	Wages per Month Summer Season			Wages per Year		
	Wages	Board	Total	Wages	Board	Total
	$	$	$	$	$	$
1914	22	14	36	155	168	323
1915	22	15	37	161	180	341
1916	26	17	43	193	204	397
1917	45	19	64	383	228	611
1918	49	21	70	329	252	681
1919	54	24	78	476	288	764
1920	60	26	86	543	278	821
1921	45	22	67	421	248	669
1938	24	17	41	230	175	405

The wages of year help showed a sharp increase in 1917 and reached a peak of $543 in 1920. Whether farm wages will rise to the same extent as between

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

Year	Wholesale Prices 1926=100				Retail prices and cost of services (5)	Production (6) 1926=100			
	All commodities (1)	Farm products (2)	Field products (3)	Animal products (4)		Physical volume of business	Industrial production	Agricultural marketings	Cold Storage holdings
1913....	64·0	62·6	56·4	77·0	65·4	....	....	....	....
1914....	65·5	69·2	64·9	79·0	66·0	....	....	....	....
1915....	70·4	77·7	76·9	79·2	67·3	....	....	....	....
1916....	84·3	89·7	88·4	92·3	72·5	....	....	....	....
1917....	114·3	130·0	134·3	119·6	85·6	....	....	....	....
1918....	127·4	132·9	132·0	134·7	97·4	....	....	....	....
1919....	134·0	145·5	142·4	152·5	107·2	71·3	65·5	48·1	47·1
1920....	155·9	161·6	166·5	149·9	124·4	75·0	69·9	52·6	94·2
1921....	110·0	102·8	100·3	108·5	109·2	66·5	60·4	65·2	86·4
1922....	97·3	86·7	81·3	99·1	100·0	79·1	76·9	82·6	82·8
1923....	98·0	79·8	73·3	95·1	100·0	85·5	83·8	91·4	87·6
1924....	99·4	87·0	82·6	97·2	98·0	84·6	82·4	102·5	114·9
1925....	102·6	100·4	98·1	105·7	99·3	90·9	89·7	97·2	108·6
1926....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1927....	97·7	102·1	99·9	105·7	98·4	106·1	105·6	103·6	110·0
1928....	96·4	100·7	92·6	114·3	98·9	117·3	117·8	146·7	112·8
1929....	95·6	100·8	93·8	112·5	99·9	125·5	127·4	101·1	109·6
1930....	86·6	82·3	70·0	102·9	99·2	109·5	108·0	103·0	128·4
1931....	72·2	56·3	43·6	77·6	89·6	93·5	90·4	99·0	125·7
1932....	66·7	48·4	41·1	60·7	81·3	78·7	74·0	114·3	120·1
1933....	67·1	51·0	45·8	59·7	77·5	79·7	76·8	105·1	115·4
1934....	71·6	59·0	53·8	67·7	78·6	94·2	93·6	88·5	114·2
1935....	72·1	63·5	57·3	74·0	79·1	102·4	103·3	87·4	128·4
1936....	74·6	69·4	65·8	75·3	80·8	112·3	114·4	82·7	141·3
1937....	84·5	84·5	85·7	84·9	83·1	122·8	120·8	49·4	157·3
1938....	78·6	73·6	69·0	81·3	84·1	112·9	114·6	64·9	144·5
1938									
Sept....	74·5	62·4	51·2	81·1	84·1	119·2	120·7	123·9	135·1
Oct....	74·1	63·8	53·6	81·0	83·9	118·6	121·1	145·6	138·8
Nov....	73·5	64·9	54·6	82·1	83·8	123·4	128·3	101·6	148·3
Dec....	73·3	64·6	53·8	82·8	83·6	115·6	118·1	85·7	146·7
1939									
Jan.....	73·2	64·8	54·7	81·7	83·3	113·0	114·2	52·0	152·8
Feb....	73·2	64·7	54·7	81·5	83·1	111·7	114·1	32·3	161·4
Mar....	73·2	65·1	54·9	82·1	83·1	113·2	115·2	48·1	166·6
April...	73·4	65·5	56·1	81·3	83·1	116·7	119·1	60·3	183·1
May....	73·7	65·2	55·9	80·7	83·1	121·4	123·3	102·6	230·7
June....	73·3	63·3	55·6	76·1	82·9	121·4	124·4	40·5	210·6
July....	72·6	62·7	55·0	75·5	83·1	120·5	123·9	76·8	150·6
Aug....	72·4	58·4	48·2	75·6	83·0	125·2	127·5	112·4	150·2
Sept....	78·2	64·2	53·6	82·0	82·9	125·8	128·3	174·4	143·9
Oct.....	79·3	64·5	51·4	86·3	84·7	133·1	139·7	96·5	152·6

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1936, p. 17.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1936, p. 52, and Monthly Mimeographs 1937-39.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.

Prices and Price Indexes 1913-1936, p. 103, and Monthly Mimeographs, 1937-1939.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

Yearly index numbers for 1938, subject to revision.

1914 and 1920 depends, of course, on several things—the demand for men for military service, munitions work, manufacture of war equipment and, of course, the length of the war. It should be emphasized, however, that there has been very considerable improvement in farm equipment since 1914 and this has tended to lessen the demand for farm labour. The advances have been made chiefly in the adaptability of tractors, automobiles, trucks and combines, and the use of such equipment on farms has assumed large proportions. Moreover it may be said that while no really adequate information on unemployment existed in 1914 it is well known that very large numbers of potentially employable men were available at the outbreak of the present war. During the past decade too, because of lack of employment elsewhere, there has been a higher proportion of farmers' sons and daughters remaining on farms and this has made available a larger supply of experienced farm labour.

Land Values.—The small table showing the value of farm land per acre in Canada 1914 to 1921 and in 1938 is worth some thought. The variations in land values in the provinces have been omitted, but the trend is typical.

Value of Farm Land per Acre in Canada 1914 to 1921 and 1938

Year	Value
	$
1914	37
1915	35
1916	36
1917	38
1918	41
1919	46
1920	48
1921	40
1938	20

The important point is that land values really showed little increase prior to 1918, the highest values being reached after the war. It is also of significance that the value of land in 1938 was just a little over half of the value reported in 1914.

It is estimated by the Dominion Bureau of Statistics that 58,291,800 acres were sown to the principal grain crops in 1939 compared with 57,121,000 acres in 1938. While the fall wheat acreage showed a decline of about 7,000 acres, the area under spring wheat increased from 25,188,400 acres to 26,021,500 acres. The acreage under oats and barley declined slightly but flaxseed and rye acreage both increased, the latter from 741,400 acres to 1,101,800 acres.

Compared with 1938, the number of horses on farms increased by 3,640 and total cattle decreased by 36,600. Sheep decreased by 49,200 while hogs increased by 807,100 to 4,294,000. Poultry increased by 5,168,200, hens and chickens accounting for 4,735,200 of this total increase. Turkeys and ducks increased in number and geese decreased.

The Bureau of Agricultural Economics, Washington, D.C., reports in the Agricultural Outlook, 1940, that the "demand for farm products is expected to be stronger in 1940 as a whole than in 1939, largely because of prospective increases in domestic business activity, and consumer incomes. Export demand for a few farm products will be increased."

Butter production in Canada during the ten-months, January to October, 1939, was slightly lower than that of the same period in 1938, the respective figures being 239,399,939 pounds and 240,973,996 pounds. Increases have taken place in Quebec, Manitoba, Saskatchewan and British Columbia. Cheese production showed a slight increase of 1·2 per cent. Higher production was recorded in Ontario, Quebec and British Columbia.

SOME COMPARISONS OF KENT COUNTY, ONTARIO, FARMS IN 1921 AND 1938

ALEX. STEWART[1] AND H. K. LECKIE

In 1921 the Farm Economics Department of the Ontario Agricultural College conducted a farm management survey of some 275 farms located in Kent County, Ontario. In 1938 the same department co-operated with the Economics Division, Marketing Service, Ottawa, in conducting a hog production and farm management study embracing three rather distinctive farming areas in Ontario. The counties selected were Waterloo, Wellington and Perth in Central Ontario; Leeds, Lanark and Grenville in the East; and Kent and Lambton in Western Ontario. As farms in Kent County were included in both surveys, it was possible to re-visit in 1938 a number of the farmers who had furnished information in 1921, and the enumerators attempted to secure as many of these "repeat" records as possible. In many cases the same operators were found living on the same farms, and out of a total of 74 records taken in the Kent County area in 1938, 21 were taken from those who had given reports in 1921. As complete farm management records were secured in both surveys, it has been possible to make some rather interesting comparisons of the 21 farms as they appeared as of April 30, 1921, and June 30, 1938. Slight variations in the form of records taken and technique employed, prevents the presentation of comparable data for all phases of the farm business, but many interesting comparisons were readily obtainable.

The farm business year 1921, beginning May 1, 1920, and ending April 30, 1921, was a period marked by rather drastic price changes. The general price level, after a short post-war recession in 1919, reached its peak in May, 1920. However, in June, 1920, a definite decline in prices commenced. From September, 1920, to July, 1921, the general price index fell 94·6 points.[2] As might be expected, the prices of farm products fell even more rapidly, resulting in large decreases in farm inventory values at the end of the survey year. This fact should be kept in mind in drawing comparisons between the two farm business years in question.

The 17 year period intervening between the conclusion of the survey in 1921, and the 1938 survey, was marked by considerable variation in farm prices. The downward trend in farm prices, already well under way in April, 1921, continued until 1923, but by 1926 prices had revived somewhat. The industrial prosperity of the 1925-1929 period was shared to a lesser extent by agriculture. After the beginning of the depression in 1929, farm prices, especially those of field products, declined rapidly, reaching a low point in 1932. By 1937 considerable improvement had taken place, but prices fell off again in 1938. In brief, then, it might be said that the 17 year period intervening between the two surveys began with a period of rapidly falling prices and consequently lower farm incomes, followed by several years of relatively stable returns from farm outputs, until 1929. At this point, farm prices and incomes began to fall off again, reached a low point in 1932, recovered somewhat in 1937, and fell off again slightly at the end of the period. Although the price index (1926 base) for farm products fell from 92·5 in July, 1937, to 76·6 in June, 1938, the decline in prices during this latter year was much less severe than that experienced in 1920-21, and the resulting inventory decreases therefore were considerably less.

In 1921 the average age of the operators of the 21 Kent farms was 38 years, and 18 had children under 16 years of age living on the farm. During the ensuing 17 years, which one would expect to constitute the more productive period of the operators' lives, it should be of interest to note what adjustments in farm organization if any, these 21 Kent County operators found necessary to cope with changing economic conditions.

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[2] Prices and Price Indexes (1913=100), 1918-1922, Internal Trade Branch, Dominion Bureau of Statistics.

Farm Capitalization.—In 1938 it was found that 11 of the farms had increased in size since 1921, enabling the operators to counterbalance, to some extent, the decline in prices with increased outputs. Three farms, on the other hand, had been reduced in size, while 7 farms maintained the same acreage. However, it will be seen from data presented in Table 1 that despite the increase in average acres per farm from 154 acres in 1921 to 188 in 1938, there was a decrease of $7,419 in average farm valuation. This was attributable, in large part, to a decline in land values from an average of $88 per acre for these farms in 1921, to $45.40 per acre for the same farms in 1938. Thus despite an increase in land holdings of 38 acres per farm, the amount of capital invested in land showed a decrease of $5,020. In 1938 farm capital in buildings averaged $1,049 less than in 1921, a decrease probably attributable in greater part to the general decline in farm values, rather than to actual depreciation of the buildings.

TABLE 1.—AVERAGE CAPITAL DISTRIBUTION ON 21 FARMS

—	May 1, 1920		June 30, 1938	
	$	%	$	%
Land	13,552	50·4	8,532	43·9
Buildings	6,686	24·9	5,637	28·9
Live stock	3,842	14·3	2,950	15·2
Machinery	2,199	8·2	2,225	11·4
Feed and Supplies	600	2·2	116	·6
Total	26,879	100·0	19,460	100·0

The decrease of $1,092 per farm in value of live stock carried was entirely due to lower market prices, since, as will be shown later, live stock populations per farm increased during the period. The increase in live stock per farm did not prove sufficient to counterbalance the effect of lower current prices on the valuation per head.

The average value of feed and supplies on hand April 30, 1921, was $484 higher than on June 30, 1938. While it might naturally be expected that stocks of feed would be more fully depleted in June than in April, it is no doubt true that changes in feed and grain prices also exercised considerable effect in decreasing this particular inventory value.

It is rather interesting that the machinery and equipment account was the only one showing a dollar increase in capitalization in 1938 over 1921. Evidently farmers had increased or renewed their farm equipment in line with their increased crop acreage and with the general tendency toward greater mechanization. Eleven operators owned tractors in 1938, whereas only 5 had them in 1921. On all 21 farms automobiles were in use in 1938, while 3 did not have them in 1921. Although the equipment inventory showed an average increase of $26 per farm since 1921, the investment in machinery per crop acre was reduced from $25.40 in 1921 to $20.40 in 1938, due to the considerable increase in acres under cultivation. The comparative rigidity of farm machinery prices no doubt was a factor in maintaining the value of the machinery and equipment inventory, although the latter also underwent a physical increase.

As indicated in Table 1, the greatest change in the percentage distribution of farm capital occurring during the period was caused by the decline in land values. In the case of live stock and equipment a decline in prices was more nearly offset by a physical increase in quantities on hand.

Land Use.—Crop acreage per farm increased from 86.6 acres in 1921 to 108.7 acres in 1938. The only crops in 1938 which were not grown in 1921 on any of the 21 farms were tomatoes and soya beans, while the growing of peas was discontinued. In 1938 there was an increase of 464 acres of crop land over

1921. All crops grown in both years showed an acreage increase, with the exception of barley. Nearly 70 per cent of the increased acreage was sown in wheat and beans.

Fall Wheat maintained its great importance on the cropping program in both years, being grown on every farm, and accounting for nearly 25 per cent of the crop acreage. Despite an average increase in wheat acreage of 6.5 acres per farm, the farms in 1938 sold 94 bushels of wheat less per farm. This would seem to indicate greater use of this grain for feed, since it is unlikely that the yield would have decreased so considerably.

TABLE 2.—DISTRIBUTION OF CROP ACREAGE ON 21 KENT COUNTY FARMS, 1921 AND 1938

Crop	1921				1938			
	Total acres	Farms growing crop	Acre per farm	Per cent of crop acres	Total acres	Farms growing crop	Acre per farm	Per cent of crop acres
	acres	no.	acres	p.c.	acres	no.	acres	p.c.
Wheat	430	21	20·5	23·6	565	21	27·0	24·7
Corn	409	21	19·5	22·5	453	21	21·6	19·8
Hay	296	21	14·1	16·3	340	20	17·0	14·9
Oats	293	19	15·4	16·1	295	18	16·4	12·9
Barley	120	12	10·0	6·6	61	6	10·1	2·7
Sugar Beets	75	8	9·3	4·1	95	6	15·8	4·2
Mixed Grain	72	6	12·0	4·0	119	9	13·2	5·2
Beans	35	6	5·8	1·9	224	13	17·2	9·8
Tobacco	32	7	4·6	1·7	34	3	11·3	1·5
Soya Beans	–	–	–	–	33	6	5·5	1·4
Other Crops	57	–	–	3·2	64	–	–	2·9
Total	1,819	21	86·6	100·0	2,283	21	108·7	100·0

Corn is second only to wheat in acreage grown, and is therefore still one of the chief crops grown on all the farms, although in 1938 there was a slight decline in the percentage of crop land devoted to it. The percentage of crop land devoted to hay, oats and barley also declined. Mixed grain showed an increase in acreage per farm in 1938, as well as in per cent of crop acres sown. The number of farms growing barley, as well as the acreage sown, showed a 50 per cent decrease.

In 1938 as in 1921, sugar beets, tobacco and beans, yielding a high return per acre, continued to occupy a place of considerable importance on some of the 21 farms. Tomatoes entered the group of cash crops on 3 farms in 1938. Sugar Beets were grown on 2 fewer farms in 1938, but the average acreage increased from 9·3 acres to 15·8 acres per farm. This tendency towards fewer growers and larger acreages was even more pronounced in the case of tobacco, where a total of 32 acres in 1921 was shared by 7 farmers, whereas in 1938, 3 growers harvested 34 acres of this crop. The greatest change in land use was in the growing of field beans, there being over 5 times as many acres sown in 1938 as in 1921, and more than twice as many growers. In addition, 7 farms grew soya beans in 1938, a crop not grown on any farms in the earlier year.

The percentage of total farm acreage devoted to crops was practically the same during both years, with most of the remainder of the land consisting of permanent or rotation pasture.

Sources of Farm Income.—Cash income from the sale of farm products declined from $5,559 in 1921 to $3,823 in 1938, a decrease of 31.2 per cent. The value of live stock sales declined 25·8 per cent, crop sales decreased by 49·4 per cent, while sales of dairy products and eggs increased by 32·8 per cent and 21·1 per cent respectively. The decreased revenue from sales of live stock was the result of much lower prices in the two years, for in 1937-38 the numbers of cattle, hogs, sheep, horses and poultry sold, considerably exceeded those sold in 1920-21. The 50 per cent reduction in value of crop sales however could not be entirely attributed to low prices of field products in 1937-38, for greater quantities of wheat, sugar beets, tobacco, and barley were sold in 1920-21. In the case of beans and corn, however, the converse was true.

It would seem that the relatively rapid fall in the prices of field products, especially after 1929, with a consequent decline in income from crop sales, caused these operators to place an increasing emphasis on live stock production in an attempt to maintain farm income, but this conclusion should be confirmed by additional statistical verification which will not be attempted at this point.

TABLE 3.—MAIN SOURCES OF INCOME, 21 KENT COUNTY FARMS

Source	Income per farm 1921		Income per farm 1938	
	$	p.c.	$	p.c.
Live stock sales	2,777	50·0	2,060	53·9
Crop sales	2,326	41·8	1,176	30·8
Dairy product sales	295	5·3	392	10·2
Egg sales	161	2·9	195	5·1
Total sales	5,559	100·0	3,823	100·0

There is no doubt however that the dairy and poultry enterprises on these farms were receiving greater attention in 1938 than in 1921, as indicated by higher returns from sales of dairy products and eggs, despite lower prices received.

Farm Expenses.—The considerable decrease in cash receipts from 1921 to 1938 was not accompanied by a corresponding reduction in current and capital expenditures. In the case of capital, the 21 farms in 1938 spent less on purchases of live stock and on improvements to real estate, but considerably more for new machinery and equipment. Thus capital expenses averaged only $92 less per farm in 1938 than in 1921.

TABLE 4.—MAIN ITEMS OF CURRENT EXPENSE ON 21 KENT COUNTY FARMS

Expense	1920–1921		1937–1938	
	Amount	Per cent of total current expense	Amount	Per cent of total current expense
	$	p.c.	$	p.c.
Labour	1,140	50·7	746	34·1
Purchased feed	189	8·4	353	16·2
Taxes	155	6·9	180	8·3
Repairs	148	6·6	165	7·5
Hired machine work	129	5·7	121	5·5
Fertilizer	119	5·3	100	4·6
Auto	56	2·5	94	4·3
Electricity	–	–	22	1·0
All other expenses	314	13·9	405	18·5
Total	2,250	100·0	2,186	100·0

In Table 4 a comparison of the main items of current expense is indicated. The 34·6 per cent reduction in the amount spent for labour in 1938 as compared with 1921 was mostly a result of a $381 decrease per farm in the amount spent for hired labour. This was accomplished by lower wage rates, and an increase in the amount of family labour available. Monthly wages for hired labour in 1921 and 1938 averaged $52.40 and $29.30 respectively; day labour, $3.90 and $2.20 per day. Furthermore in 1921, only 4 farms had sons working full-time while 14 farms had sons doing so in 1938.

Purchases of feed averaged $164 higher per farm in 1938, despite considerably lower feed prices. Heavier live stock populations in 1938 than 1921 and increased use of commercial feeds and minerals contributed to the higher expenditure for feed. In 1921 only 6 farms reported purchases of prepared feeds, average of $26.30 per farm for the entire group. In 1938, 19 farms reported such purchases, with an average expenditure of $79.30 for all 21 farms. Thus the amount spent per animal unit for such feeds in 1938 was $9.90, while only $6.90 was spent per animal unit in 1921.

Farm taxes, notwithstanding a decrease in valuation of over $7,000 per farm from 1921 to 1938 increased in absolute amounts but due to the increase in the average size of farm, were lower on a per acre basis, dropping from $1 to 95c. per acre.

In 1921, 13 farms used commercial fertilizers, spending an average of $191.70 per farm for such purpose. In 1938, the number of farms using fertilizer had increased to 19, and the amount spent per farm was $110. Since the average price of complete fertilizers had fallen from about $60 per ton in 1921 to $30 per ton in 1938, more fertilizer was used per farm during the latter year. The amount used per crop acre however fell from 70 lbs. in 1921 to 65 lbs. in 1938, because of increased crop acreage. On all of the 21 farms hydro-electric power was installed between 1921 and 1938. Since hydro was generally used both for domestic and farm purposes, approximately 50 per cent of the yearly cost of electricity was included as a farm expense. The increasing use of motor cars on the farm is reflected in considerably higher average expenditure for automobile operation in 1938.

A more detailed discussion of the crops and live stock enterprises on these farms as revealed by the two surveys will be presented in part II of this article which will appear in a later issue of the *Economic Annalist.*

CONSUMPTION OF CHEESE AND BUTTER IN FARM AND OTHER RURAL HOUSEHOLDS IN CANADA, 1937

In the August issue of *The Economic Annalist,* an article was published on the consumption of milk, skim milk and butter-milk in Canadian farm households. The data used were taken from a report prepared for the Associated Women of the World. A further excerpt from this Report, dealing with the consumption of cheese and butter, is presented below.

Cheese.—Although an attempt was made to obtain information from rural households on the consumption of different kinds of cheese, such as Canadian cheddar, processed cheese and other kinds, upon examining the completed questionnaires, it was obvious that it would be impossible to tabulate figures for different kinds of cheese. The data given in the accompanying table represent, therefore, the pounds of all kinds of cheese consumed per household and per person.

The per capita consumption of cheese in farm households ranged from ·17 of a pound per month in New Brunswick to ·50 of a pound in Saskatchewan. The four eastern provinces of Canada, namely, Prince Edward Island, Nova Scotia, New Brunswick and Quebec had a smaller per capita consumption of cheese than the other provinces of Canada.

Monthly per capita consumption of cheese by rural households other than farmers was very similar to the consumption in farm households in all the provinces. The range was from ·16 of a pound per month in New Brunswick to ·58 of a pound in British Columbia. The average consumption of the 1,840 farm households in all of Canada was ·28 of a pound per month and for other rural households ·33 of a pound.

MONTHLY CONSUMPTION OF CHEESE (OF ALL KINDS) AND WEEKLY CONSUMPTION OF BUTTER IN FARM AND OTHER RURAL HOUSEHOLDS IN THE VARIOUS PROVINCES OF CANADA 1937

Province	Type of household	Number of households	Pounds of cheese consumed per month		Number of households	Pounds of butter consumed per week	
			per household	per person		per household	per person
			pounds	pounds		pounds	pounds
Prince Edward Island	Farm	88	1·48	·23	82	5·05	·80
	Other rural	12	2·00	·34	11	4·86	·80
	All rural	100	1·55	·24	93	5·03	·80
Nova Scotia	Farm	124	1·45	·24	124	3·77	·63
	Other rural	72	0·91	·17	72	3·27	·60
	All rural	196	1·25	·22	196	3·59	·62
New Brunswick	Farm	131	1·06	·17	126	5·08	·80
	Other rural	64	1·00	·16	61	3·73	·62
	All rural	195	1·04	·16	187	4·64	·74
Quebec	Farm	794	1·94	·27	770	4·34	·59
	Other rural	355	1·90	·33	333	3·88	·65
	All rural	1,149	1·93	·28	1,103	4·20	·61
Ontario	Farm	226	2·11	·44	221	4·20	·89
	Other rural	140	2·02	·51	136	3·50	·86
	All rural	366	2·08	·47	357	3·94	·88
Manitoba	Farm	122	2·05	·35	122	5·68	·98
	Other rural	94	1·65	·34	93	3·84	·81
	All rural	216	1·88	·35	215	4·89	·91
Saskatchewan	Farm	304	1·81	·50	292	5·04	1·40
	Other rural	65	1·95	·37	61	4·58	·86
	All rural	369	1·83	·46	353	4·99	1·28
Alberta	Farm	17	1·21	·19	17	3·88	·61
	Other rural	–	–	–	–	–	–
	All rural	17	1·21	·19	17	3·88	·61
British Columbia	Farm	34	2·07	·37	33	5·32	·94
	Other rural	22	2·82	·58	22	3·91	·80
	All rural	56	2·37	·45	55	4·75	·89
All rural Canada	Farm	1,840	1·79	·28	1,787	4·59	·76
	Other rural	824	1·77	·33	789	3·83	·71
	All rural	2,664	1·78	·30	2,576	4·35	·75

Butter.—As in the case of cheese, per capita consumption of butter was somewhat lower in rural households in the four eastern provinces of Canada than in Ontario and the western provinces. The weekly per capita consumption of butter in farm households ranged from ·59 of a pound in Quebec to 1·40 pounds in Saskatchewan. The average for the 1,787 farm households reporting on butter consumption in all of Canada was ·76 of a pound per week and for other rural households ·71 of a pound.

ONTARIO HOG-FEED RATIO

IAN MCARTHUR

In any study of hog production one is struck by the wide variations which occur in production over a period of years. In an effort to explain the reasons behind such changes in production numerous studies have been made relating the price farmers receive for their hogs and the cost of feed which is utilized in hog production. In most cases the price of a single predominant feed has been used, such as corn or barley. In Ontario the feeding practices are such that no single feed is of such importance that its price can be used with confidence to determine the relationship between hog production and feed prices. It therefore, seemed advisable to compile a composite feed price using the prices of the several representative feeds used in the ration of Ontario hogs.

In order to determine what feeds are of most importance in the Ontario hog ration and what weights should be given to each individual feed, an analysis was made of feeding practices as reported by farmers in a study of hog production in Ontario conducted by the Economics Division, Marketing Service, of the Dominion Department of Agriculture in co-operation with the Department of Agricultural Economics, Ontario Agricultural College, Guelph. The records secured in this study, covering the year 1937-38 gave the rations fed to hogs during the various stages of their growth from weaning to market weight. The rations were usually secured in the form of proportions rather than absolute amounts. That is, the farmer reported feeding one part barley, one part oats, and one part wheat plus 10 per cent protein supplement during the finishing period. Using basic feed requirements as shown by studies made at the Ontario Agricultural College and Macdonald College, Quebec, the amounts of the various feeds fed during the lifetime of the hogs was estimated. The study included farms located in Eastern Ontario where hog production is generally associated with whey available from cheese factories; in Central Ontario where hog production is associated with high barley production and adequate supplies of skim milk; and in South Western Ontario where hog production is associated with the production of grain corn for feed. Thus the study embraced all the main differences in hog producing practices in the province.

In cases where whey or skim milk was fed to hogs it was assumed that 100 pounds of skim milk contained 6 pounds of protein and 100 pounds of whey contained 3 pounds of protein. These figures were used to determine the amounts of protein equivalent fed to the hogs.

The final amounts for each area were calculated as percentages of the total and in estimating the proportions of feed for the whole province each area was weighted by the percentage of hog marketings originating in that area. The results of these calculations are shown in Table 1.

Since it would be impractical and unnecessary to include all the feeds represented in Table 1, it was decided to use only the four important farm feeds; barley, oats, wheat and corn. Shorts was used to represent the mill feeds, oilcake to represent the other concentrates and tankage to represent the protein supplements. It was assumed that price changes of these items would closely reflect changes in prices of those feeds which were dropped from the calculations. In each case where one or more feeds were used to represent a group, the price of that feed was weighted by the total percentage of feed used from that group in Table 1.

Monthly prices were compiled for all the feeds included in the calculation for the period 1915 to 1939, with the exception of tankage where monthly figures were not available prior to 1928. In that case the oilcake prices were used to

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The author wishes to acknowledge the advice and assistance of Mr. R. G. Knox, Professor of Animal Husbandry, Ontario Agricultural College and Mr. H. K. Leckie of the Economics Division.

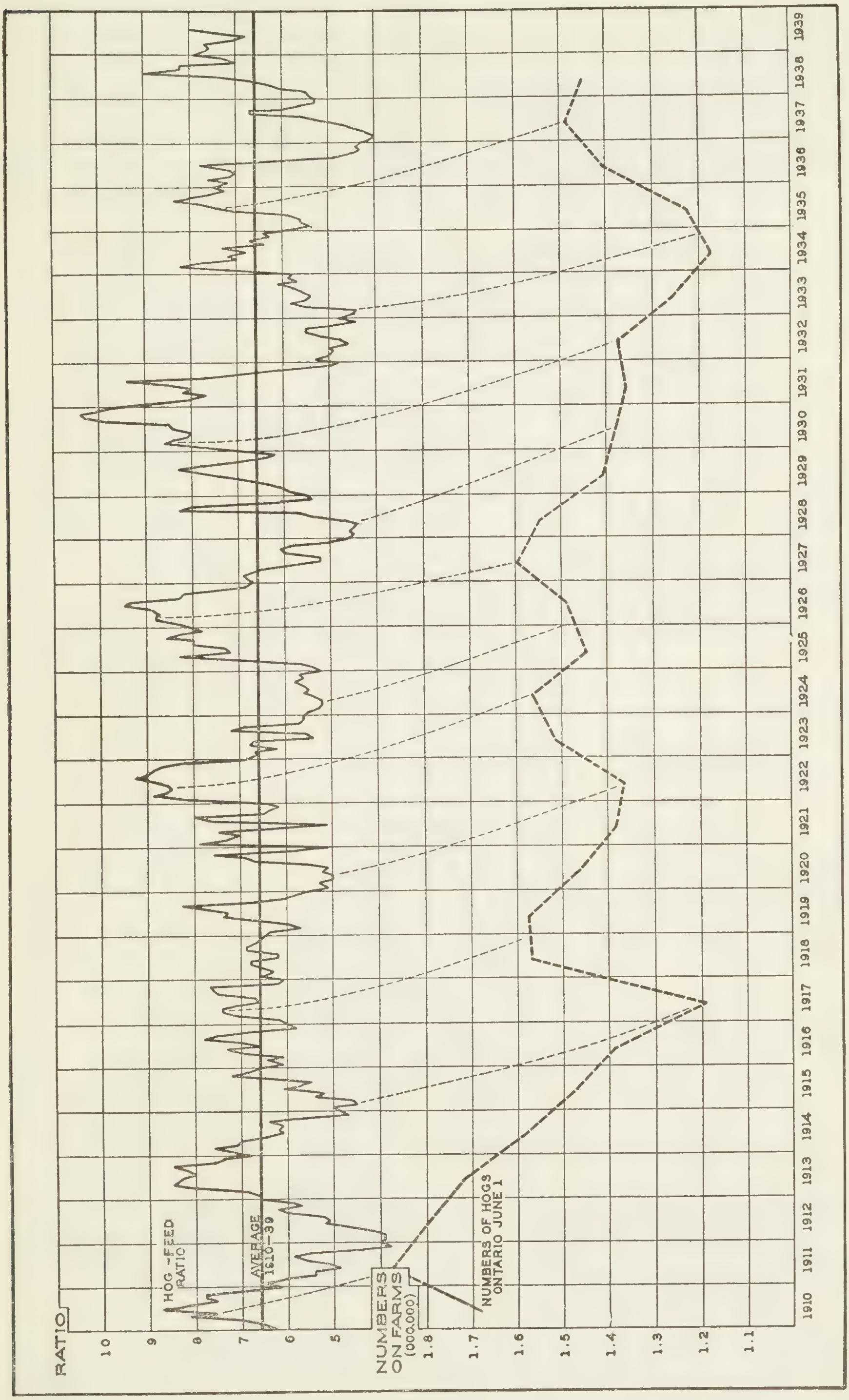

FIGURE 1.—Ontario Hog-feed Ratio. Periods when the hog-feed ratio was above average were followed by increases in hog numbers. Periods when the ratio was low were followed by decreases in hog numbers.

represent both concentrates and protein supplement for the period 1915 to 1927 inclusive. After weighting all the monthly prices by the percentage they made up of the total feed used by hogs, a composite price for 100 pounds of mixed feed was determined. As the price of oilcake was not available monthly prior to 1915 the composite price of wheat, oats, barley, corn and shorts was used to carry the calculation back in 1910. The monthly price of hogs at Toronto was then divided by the composite feed price and the hog-feed ratio established. This is shown in Figure 1. The average hog-feed ratio for the period 1910-1938 was 6·6; that is, the value of 100 pounds of live hog was equal to 660 pounds of the composite mixed feed.

To show the response of producers to changes in the hog-feed ratio the estimated numbers of hogs on farms at June 1 of each year is also shown on Figure 1. It will be seen that periods in which the ratio was favourable to producers; that is, when feed costs were relatively low compared with the price of hogs, the numbers of hogs on farms tended to increase and conversely, periods when feed prices were high relative to hog prices were followed by declining numbers of hogs on farms. The lag in changes in hog numbers behind periods of relative profitableness and unprofitableness of hogs ranged from 12 to 24 months.

TABLE 1.—PERCENTAGES OF THE VARIOUS FEEDS FED TO ONTARIO HOGS 1937-38

—	Central Counties	Western Counties	Eastern Counties	Province
	%	%	%	%
Farm Feeds—				
Barley	38·0	15·4	33·1	32·8
Oats	37·0	31·2	26·4	34·2
Wheat	8·4	17·5	1·7	9·0
Corn	1·0	27·2	2·3	6·6
Rye	0·2	....	....	0·2
Buckwheat	0·5	0·5	3·5	1·0
Beans	....	0·1	....	....
	85·1	91·9	67·0	83·8
Mill Feeds—				
Middlings	0·1	0·9	9·2	1·7
Bran	0·2	0·7	0·5	0·3
Shorts	0·5	1·0	1·2	0·7
Homing and feed flour	0·6	....	0·6	0·5
Screenings	2·2	....	....	1·4
	3·6	2·6	11·5	4·6
Other concentrates—				
Pig starter	0·7	1·2	0·3	0·7
Hog grower	2·5	....	13·0	3·6
Hay concentrate	0·6	....	....	0·4
Oilcake	0·1	....	1·0	0·2
Soya bean meal	0·1	0·1	....	0·1
	4·0	1·3	14·3	5·0
Skim milk protein equivalent	6·5	2·5	6·7	5·7
Purchased protein supplement	0·8	1·7	0·5	0·9
	7·3	4·2	7·2	6·6
Total	100·0	100·0	100·0	100·0

There are, however, factors other than the relative prices of feed which tend to influence hog producers in their production program. One such factor would be the relative price of beef cattle to the price of hogs. It might be expected that when beef cattle prices were relatively attractive farmers would tend to shift into beef cattle production despite a favourable feed-hog ration. Other factors such as weather conditions at time of farrowing might have an effect on the numbers of hogs on farms at June 1st. This factor is however, difficult to measure statistically. Also the effect of governmental or other campaigns to stimulate hog production are impossible to measure statistically. As statistical analysis of the relationship between numbers of hogs on farms with the hog-feed ratio and other factors will appear in a later issue of the *Economic Annalist.*

A NEW PUBLICATION

The International Journal of Agrarian Affairs, Vol. 1, No. 1, October, 1939, has just been received. This issue deals with the problems of Surplus Agricultural Population.

The new Journal is sponsored by the International Conference of Agricultural Economists, although the funds for publication have been provided from other sources. The editor is J. P. Maxton, Oxford, who has edited the last three volumes of the Proceedings of the International Conference of Agricultural Economists. The financial affairs of the Journal are in the hands of J. R. Currie, Honorary-Secretary of the Conference. While the Journal is made available to members of the Conference without charge, it may be secured at 3s. 6d. per copy at book sellers or £1 for Volume 1—six numbers. Subscriptions should be sent to J. P. Maxton, 3 Magpie Lane, Oxford, England. The Conference membership is £1, payable to J. F. Booth, Economics Division, Marketing Service, Department of Agriculture, Ottawa.

The editor states, "The Publication is called a Journal for convenience because it will be published as a periodical twice a year. It might, however, be as aptly described as a series of studies, because the intention is that each number of the Journal will deal, as a rule, with one general economic or social problem of agriculture."

"Many of the problems of the economic and social conditions of agriculture are common to all countries. They may be present in greater or less degree in some types of countries than in others, and everywhere the forms and manifestations may vary, but the problems are international in the sense that they are fundamental issues in the agricultural economy of all countries."

"While the contributions will necessarily include useful and important facts and figures pertaining to the various problems, the Journal is designed as a form for international discussion and not as a statistical year-book or encyclopaedia of agricultural information. International publications of the latter kind are already available, published by institutions infinitely better equipped for the purpose. As an essential complement to the facts and figures there is need for international discussion of fundamental problems, and it is this need which the International Journal of Agrarian Affairs hopes to satisfy in some measure."

The contributors to the first number are L. K. Elmhirst, President, International Conference of Agricultural Economists; J. D. Black, Harvard University; H. M. Conacher, formerly of the Department of Agriculture for Scotland; M. L. Wilson, Under Secretary for Agriculture, United States Department of Agriculture; J. E. Lattimer, Macdonald College, P.Q.; Clayton E. Whipple, Near East Foundation and A. U. Toteff, Institute of Agricultural Economic Research, Sofia University, Bulgaria, and P. Starcs, University of Latvia, Riga, Latvia.

COST OF PRODUCTION OF MILK IN THE MONTREAL DISTRICT[1]

In 1928, the Quebec Department of Agriculture with the co-operation of the Macdonald and Oka Agricultural Colleges initiated a study of the cost of production of fluid milk sold in the city of Montreal. Since then, records have been taken annually and the report just issued covers the ten-year period 1928-38.

During the first five-year period, 1928-33, a certain number of farm records were taken in the counties of Argenteuil, Two Mountains, Laprairie, Assomption, Napierville, Terrebonne, Vercheres, Beauharnois, Chateauguay and Huntingdon. For the second five-year period 1934-38, farm records were also taken in the counties of Laval, Vaudreuil, Jacques-Cartier, St. John, Iberville, Missisquoi and Rouville.

During the fall of 1928, 224 farms were visited and a detailed farm record was secured from each farm. The number of records taken for each of the four subsequent years decreased gradually and in 1932-33, only 121 were taken. During the next five years, from 1934-38, the number of farm records remained fairly constant, varying between 122 and 134.

The method used in analysing the data on cost of production of milk was the "herd unit" method, that is, all the expenses for the whole dairy herd including the bull and the young stock were included.

Capital Value in Farm.—The total capital in land, buildings, farm equipment and live stock averaged $14,023 for the ten-year period 1928-38. Of the total farm investment $4,158 was for land, $3,570 for buildings other than dairy buildings, $2,195 for dairy buildings and dairy equipment, $1,606 for the dairy herd, $596 for other live stock and $1,898 for farm machinery and equipment. The average farm investment is somewhat high on account of the higher farm value prevailing in 1928 when the first inventory was taken. The average size of farms was 168 arpents (142 acres) of which 126 arpents (106·5 acres) were under cultivation and 32 arpents (27 acres) in pasture.

There was an average of 23 dairy animal units and 19 milk cows per farm and the average production of milk per cow for the 10-year period was 6,420 lbs. per cow. The average production of milk per cow varied somewhat from year to year; the highest average figure was 6,866 lbs. in 1936-37 and the lowest, 6,052 lbs. in 1932-33.

ITEMS ENTERING INTO THE AVERAGE COST OF PRODUCTION OF MILK AND PER CENT OF VARIOUS ITEMS IN GROSS COST, MONTREAL MILK SHED 1928-38

—	Cost per animal unit	Cost per cwt. of milk	Per cent of gross cost
	$	$	%
Total feed cost including pasture	59·15	1·17	45·9
Dairy labour	22·69	0·45	17·6
Interest and depreciation	14·74	0·29	11·6
Decrease in inventory	6·75	0·13	5·3
Purchases of dairy animals	6·08	0·12	4·8
All other dairy expenses	19·24	0·38	14·8
Gross milk cost	128·65	2·54	100·0
Receipts other than milk	31·69	0·62	
Net milk cost	96·96	1·92	

Production of milk per farm	115,754 lbs.	Value of milk per farm	$2,131.06
		Value of milk per cow	118.20
Production of milk per cow	6,420 lbs.	Value of milk per cwt.	1.84

Net Cost of Producing Milk.—The net cost of producing milk was obtained by deducting from the gross milk cost all receipts from the dairy herd other than the receipts from the sale of milk. The net cost of production of 100 pounds of milk averaged $1.92 for the ten-year period. The highest cost per 100 pounds of milk at $2.58 was in 1929-30, and the lowest cost of $1.35 was in 1935-36.

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[1] Department of Agriculture, Quebec, Cost of Producing Milk in the Montreal District—a ten-year study.

There are some variations from year to year in the various items entering into the milk cost but the most important fluctuations are in the cost of feed and the cost of labour. For instance, in 1929-30, the feed cost per 100 pounds of milk was $1.56 and the labour cost $0.64 while in 1935-36, the feed cost was $0.97 and the labour cost $0.31. There is also a close relationship between the milk cost and the production of milk per cow. In 1929-30, the average production per cow was 6,159 pounds while it was 6,805 in 1935-36.

The analysis of the data of 45 farms where records were taken continuously over the whole ten-year period, shows that the net milk cost averaged $1.60 per 100 pounds on the 22 farms producing milk at the lowest cost while it averaged $2.04 on the other 23 farms and $1.80 for the 45 farms in the group. The average milk production per cow was 6,448 for the 22 farms, 6,080 pounds for the 23 other farms and 6,343 pounds for the 45 farms.

ECONOMIC LITERATURE

The Wheat Economy, G. E. Britnell, Professor of Political Science, University of Saskatchewan. The University of Toronto Press. Toronto, 1939. 241 pages and appendices.

In the editor's preface, H. A. Innis, University of Toronto, states in part,—"This work is part of an extended project carried out by the Canadian Institute of Pacific Affairs on standards of living in Canada, and constitutes a report in the international research program of the I. P. R. planned in 1933, . . . Mr. G. E. Britnell, has been engaged since 1934 in a study of standards of living in Saskatchewan and this volume presents his final conclusions."

Mr. Britnell has summarized and brought together a wealth of information touching almost every phase of the development of the province of Saskatchewan from its earliest history to the present time. The book is completely documented throughout, showing a wide and thorough search for and assimilation of materials both published and otherwise. The early chapters of the volume provide the geographical background and a discussion of railways and transportation. In a chapter on the distributing structure, the author stresses the domination of agriculture in the Saskatchewan economy. He writes, "There is, for Saskatchewan, no important source of income which does not derive, in the final analysis, from agriculture. The extent to which the province depends directly upon the basic industry and the relatively slight economic importance of manufacturing, mining, and lumbering are illustrated by production statistics."

Turning to the wheat economy proper, Professor Britnell presents an exhaustive study of the settlement and development of the Saskatchewan wheat growing area. The rapidity of the expansion is shown and the inevitable mistakes discussed. Referring to the tendency to specialize in wheat production, and in justification of that program, the author states, "Intense specialization in wheat relative to other grains on the semi-arid plains is a result of the great drought-resisting capacity of wheat and the extremely high quality of the wheat produced. Ranching is a competitor with wheat in the drier areas of the plains region but diversification, or mixed farming, necessitating extensive production of forage crops, is generally negligible." The hazards of wheat production are illustrated by a vivid description of what transpired as a result of drought, insect infestation and rust during the period 1931 to 1938.

Under the general heading of Income and Expenditure the author discusses income from the standpoint of gross and net farm income, pointing out that the income of the province is largely dependent on the volume, price and grade of wheat. The extreme variability of income is shown. Farm debt is discussed in the light of the more recent situation and efforts made to maintain "security of tenure" for the farmer. Farm relief and the difficulties incidental to it are also considered.

The Provincial and Municipal Institutions of Saskatchewan are reviewed and include reference to educational services, telephones, highways, medical and health services and social welfare services.

Standards of Living on Saskatchewan farms are discussed in detail. Professor Britnell has made a careful analysis of expenditures for living by farm families as shown in records secured by the Farm Management Department of the University of Saskatchewan over the period 1930-34, in 14 different areas of the province. The marked decline which took place in family living expenditures over the period studied, even after allowing for changes in the price level, illustrates the contraction which was necessitated by drought and low farm prices. This contraction of expenditures has resulted in a marked decline in the standard of living and has reduced many of the items to a point where it is difficult to understand how families could be maintained.

The concluding chapter on Rehabilitation deals with the efforts which are being made to bring about a more stable type of agriculture and consequent rise in the standard of living. Professor Britnell concludes in part, "A good crop at an improved price would, assuming creditors exercised a reasonable forbearance, make it possible to check deterioration and effect some replacements, but restoration to the moderate levels of the late twenties would require an unusual succession of good crops together with a favourable relationship of prices and costs. Assuming a return to "normal" wheat crops and incomes, permitting a measure of effective economic and social rehabilitation, it appears likely that the new levels will be lower than those which obtained in the region prior to the depression. At the same time, continued dependence on wheat, combined with the limitations imposed by geography and climate on any attempts to achieve a larger measure of self-sufficiency in farm family living over most of the area, indicates that the economy will continue to be subject to marked fluctuations in standards of living."

Statistics of Agriculture and Co-operation in Finland. Helsinki, Pelleuvo-Seura, 1939, 32 pages.

This small brochure written in English gives a wealth of statistical information with regard to agriculture and co-operation in Finland. To present all the data given in the short space available has obviously been no easy task, but a concise text and excellently constructed tables have both combined to make available to the reader a most comprehensive review.

Little is missing in the statistics on agriculture and the 29 sections, beyond presenting the more usual class of data relating to agriculture embrace such items as the use of fertilizer, soil improvement, drainage, agricultural indebtedness and the use of agricultural machinery.

The second half of the brochure is descriptive of co-operation in Finland.

NOTES

The Agricultural Situation and Outlook which has been published annually since 1934 by the Dominion Department of Agriculture and the Department of Trade and Commerce will not be published in 1940, according to a statement made by J. F. Booth, Chairman of the Sub-Committee appointed by the National Advisory Committee on Agricultural Services.

The acreage of burley tobacco grown in Ontario this year is estimated at 11,223 acres of which 11,093 are measured acres planted by members of the Burley Tobacco Marketing Association of Ontario. The acreage of flue cured tobacco in Ontario is 56,360, of which 52,160 acres were grown by members of the Ontario Flue Cured Tobacco Marketing Association.

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